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ABSTRACT

This compilation lists research completed in the areas of health, physical education, recreation, and allied areas during 1979. It is arranged in three parts. Part one, the index, gives cross references for all the listings in parts two and three. References are arranged alphabetically under the subject headings. Part two contains a bibliography listing published research and citing articles published in 187 periodicals reviewed by the compilers of this publication. The third section contains abstracts of master's and doctor's theses from institutions offering graduate programs in health, physical education, recreation, and allied areas. (Editors/JD)

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COMPLETED RESEARCH

in Health, Physical Education and Recreation

including international sources

Volume 22 **1980 Edition**

covering research completed in 1979

Edited by ANNE L. ROTHSTEIN and JACK NELSON for the
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PHYSICAL EDUCATION, RECREATION AND DANCE

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1980-1981

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INTRODUCTION

This compilation lists research completed in the areas of health, physical education, recreation, and allied areas during 1979. It is arranged in three parts.

I. **Index.** In this section, cross references are given for all the listing in Parts II and III. References are arranged under the subject headings, which are in alphabetical order. Instructions for using the index are given at the top of page 1.

II. **Bibliography.** This is a listing of published research, citing articles published in the 187 periodicals reviewed by the Committee for *Completed Research*. The periodicals reviewed are listed in pages 266 through 270.

III. **Theses Abstracts.** These are master's and doctor's theses from institutions offering graduate programs in health, physical education, recreation, and allied areas. Institutions reporting are listed on pages 271 through 275. Most references are accompanied by abstracts of the research and all are numbered in alphabetical order according to the institution. Names of institutional representatives sending in theses abstracts are indicated in parentheses after the name of the institution; major professors are in parentheses after each reference.

Universities and colleges are encouraged to submit abstracts of theses completed at their institutions in the year 1980 for inclusion in the next issue of *Completed Research*. Material should be sent to Jack Nelson, Chairman of Theses Abstracts.

Anne L. Rothstein
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PART I — INDEX

This index enables the reader to refer to the items of completed research listed in Parts II and III. Research topics are arranged in alphabetical order. The reference numbers following each topic correspond to the listings of completed research dealing with that topic. The capital letter B indicates a reference to be found in the Bibliography (Part II); the capital letter T indicates a reference to be found in the Theses Abstracts (Part III).

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PART III—THESES ABSTRACTS

ABBREVIATIONS APPEARING IN THIS PUBLICATION:

AAHPER = American Alliance for Health, Physical Education, and Recreation (abbreviate all familiar organizations, e.g., AAU, NCAA, etc.)
AD = Athletic Director
AE = Absolute Error (CE = Constant Error, VE = Variable Error)
ANCOVA = analysis of covariance
ANOVA = analysis of variance
BP = blood pressure
BTPS = body temp pressure saturated
C = centigrade
CA = chronological age
CO_2 = carbon dioxide
X^2 = chi square
o = degrees
DEPT = department
ELE = elementary
EKG = electrocardiogram
EMG = electromyogram
EMR = educable mentally retarded
exp = experiment or experimental
F = Farenheit
F = F ratio
FEV 1.0 or 2.0 = forced expiratory volume
gm = gram
GPA = grade point average
HE = health education, health
ht = height
HR = heart rate
IQ = intelligence quotient
JC = junior college
JHS(S) = junior high school(s)
kg = kilogram
kg/m = kilogram per meter
kpm/min = kilopondmeter per minute
KR = knowledge of results
max = maximum or maximal
measurements, units of*
MS = middle school
mm = millimeter
mph = miles per hour
msec = millisecond(s)
MT = movement time
no. = number (in text, e.g., the total no. of days . . .)

N = number (e.g., of Ss) all numbers in arabic form (e.g., 1 = one, 5 = five, 100 = one hundred)
N_2 = nitrogen
O_2 = oxygen
p = probability ($p < .05$ = significance greater than .05 level, $p > .01$ = nonsignificance at the .01 level)
PE = physical education
PR = pulse rate
PWC_{170} = physical work capacity, PWC (level of HR unspecified)
% = percent
psi = pounds per square inch
r = correlation
REC = recreation
RLV = residual lung volume
rpm = revolutions/min
RT = reaction time
SV = stroke volume
SD = standard deviation
SHS = senior high school(s)
STPD = standard temp pressure dry
S(s) = subjects; S's = subject's (possessive; fresh, soph, jr, sr)
t = t ratio
tests**
temp = temperature
TRT = total response time (RT + MT)
US = United States
USSR = Union of Soviet Socialist Republics
wt = weight
VO_2 = oxygen uptake
V_E = ventilation equivalent
$\overline{X}$ = mean
V_T = tidal volume
YMCA = Young Men's Christian Association
YMHA = Young Men's Hebrew Association
YWCA = Young Women's Christian Association

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*in. = inch; sec = second; wk = week; hr = hour; min = minute; mo = month; ml = milliliter; oz = ounce; yd = yard, etc.

**Abbreviate all kinds of performance tests if possible (e.g., CPI = California Psychological Inventory; Cattell 16 PF = Cattell 16 Personality Factor Questionnaire; MMPI = Minnesota Multiphasic Personality Inventory).

ABSTRACTS

APPALACHIAN STATE UNIVERSITY (E.O. Larsen)
BOONE, NORTH CAROLINA

1. SUTTON, Michael G. A comparative study of field goal attempt inaccuracies in selected men's college basketball games. M.A. in Physical Education, 1979, (W.L. Steinbrecker)

This investigation was undertaken to determine if there were any sig diff in missed field goal attempts in basketball falling short or long of the basket in selected men's college basketball games, and whether those errors were different in the first half, second half, or the complete game. Films and videotapes of the home games of 3 North Carolina college basketball teams were studied, and data were recorded. Shots were recorded as short or long for each 3 time periods: first half, second half, and the complete game. There were 1353 shots recorded from 36 games, and these data were analyzed using a Chi Square Test. It was concluded that shooting errors in men's college basketball games appeared to be mixed in terms of missing short or missing long, similar in type during each half and for the entire game, and similar in type for both the home and visiting teams.

BRIGHAM YOUNG UNIVERSITY (D. Shaw)
PROVO, UTAH

2. ABRATH, P.M., Jr. An instrument for evaluating K-6 physical education programs; developed and standardized for use as an optical-scanning form. Ed.D. in Physical Education, 1978, 82 p. (R. Barker)

A simplified instrument was developed for evaluating K-6 PE programs in terms of student participation, behavior, and performance as weighed against current trends and validated principles. Curricular validity was rendered using a panel of 22 experts in the field. Data for estimating reliability and objectivity were obtained through the test-retest method, using 2 evaluators at each of 25 WA state schools. Reliability and objectivity were established using ANOVA and Pearson r techniques respectively. Having rendered the instrument valid, reliable, and objective, it was designed to illustrate the types of information available through computer-processing of data gathered utilizing the optical-scan approach to program evaluation.

3. ADAMS, Ted. Cardiac adaptations to endurance training: as determined by echocardiography and electrocardiography. Ph.D. in Physical Education, 1979, 138 p. (A.G. Fisher)
Using echocardiography (ECHO) and electrocardiography (ECG) cardiac and fitness performance was evaluated before and after a 3 mo endurance training program (ETP). 30 untrained male Ss ($\bar{X}$ age $\approx$ 23) were used (22 exp and 8 control). The supervised ETP consisted of 50 min jogging sessions 5 days/wk at 85% maximum HR. Compared to the control group, ECHO after training showed an increase in left ventricular (LV) enddiastolic dimension (EDD) ($p < .05$), SV ($p < .05$), and a decrease in the thickness of the LV posterior wall (PW) at EDD ($p < .05$). The LV endsystolic dimension EDS, % fiber shortening, showed no change. ECG measurements revealed a decrease in HR ($p < .05$) and an increased R wave in V_5 and V_6 ($p < .01$). The measured max VO_2 ($ml/kg \cdot min^{-1}$) also increased ($p < .001$). These data indicate that increases in SV associated with endurance training may be partially explained by increases in LV EDD.

4. ADEL, Ibrahim. Soccer style versus toe style place kicking. Ed.D. in Physical Education, 1979, 57 p. (W. Cryer)
The comparison of the soccer style and toe style place kicking was done on the basis of distance kicked, accuracy from 10 yd less than the subjects average distance score, and accuracy for point after touchdown (PAT). The comparison was done on 2 levels, trained beginners and experienced place kickers. The Ss in the beginning level were college students with no prior experience in kicking. The Ss in the experienced group were college and SHS place kickers with at least 1 yr varsity experience. Data were analyzed with ANOVA and ANCOVA. Results indicated no sig diff at the beginning level between soccer style and toe style in terms of distance kicked, accuracy from 10 yds less than the Ss' average distance score, and accuracy for PAT. With the experienced kickers, the soccer style was more accurate for PAT, otherwise there was no diff between the 2 styles.

5. ANDREASEN, W. Gunder. A participation analysis in golf in Utah County. M.A. in Recreation Education, 1979, 62 p. (W. Hafen)
Various questions were asked of randomly selected golfers at 6 public golf courses concerning reasons for playing golf, desirable course characteristics, and other golf related questions. It was indicated that the main reasons for playing golf were enjoyable recreation, fun and relaxation, love of the game, and

physical activity. The course characteristic selected as most important by respondents was maintenance and upkeep of the golf course. A high correlation was found between course most preferred and course most used. A sig correlation was also found between course most regularly played and golfer's residence.

6. BARNES, Michael A. Undergraduate professional physical education: a fault tree analysis of the program at Brigham Young University. Ed.D. in Physical Education, 1979, 156 p. (E. Roundy)

The purpose was to identify and make recommendations for eliminating the possible strategic pathway to failure of the stated goals of the undergraduate division of the Department of PE at BYU. Interviews conducted with faculty, graduates, and current seniors familiar with the undergraduate program resulted in the formulation of possible failure events. A fault tree was constructed and quantified. Strategic pathways to failure were determined to be failures inherent in the curriculum. This was more specifically attributed to failure in the teacher education and certification program to prepare teachers, because the program did not prepare prospective physical educators to teach in the urban/inner city schools. This failure was attributed to the geographical location of BYU to most inner city school situations.

7. BENSON, Rose Ann. A Cine analysis comparing the 'Naber spin' turn with the standard backstroke turn. M.S. in Physical Education, 1979, 113 p. (W. Cryer)

Utilizing cinematography, a biomechanical analysis comparing the 'Naber spin' turn with the standard backstroke turn was made using 2 Ss: John Naber and Peter Rocca. The primary difference between the 2 styles of backstroke turns was the position of the upper body during the pivoting action. The 'Naber spin' spin turn was deemed superior biomechanically because the radius of rotation during the pivoting action was decreased at each end of the body due to the hips and trunk flexing to 55° when the head came out of the water. In the standard turn the angle at the hips and trunk was 110° with only the legs out of the water. The no. of trials was insufficient to produce statistically sig diff in turn times. Other advantages of the 'Naber spin' turn include increased breathing time and visibility of competitor positioning.

8. BOYER, Allan C. A manual for conducting initiative activities. M.A. in Recreation Education, 1978, 106 p. (W. Hafen)

A manual on conducting initiative activities was developed from information from 3 sources: experience of the researcher, the literature, and a questionnaire presented to experts and others who had conducted initiative activities. Information was acquired on preferred group size, the area for presenting activities, working with mixed groups, the concern for safety, and the effectiveness of activities in increasing group participation. It was concluded that safety was the greatest consideration, and that the activities should suit the abilities of the group.

9. CALHOUN, Michael L. The caloric expenditure of stair climbing. M.S. in Physical Education, 1979, 41 p. (P.E. Allsen)

Caloric expenditure of climbing and descending 1, 3, 5, and 7 stairs at 3 selected intensities was determined. Intensities of 100, 120, and 140 steps per minute were selected. 4 male and 4 female volunteer Ss in each of the age groups 10-17, 18-25, 26-40, and 41-50 completed the 12 work bouts in random order. Expired gases were collected and analyzed during each work bout to determine caloric expediture. An increase in intensity and/or no. of steps resulted in an increase in caloric expenditure. It was also found that the diff in the caloric cost of stair climbing for men and women was not practically significant, but younger and smaller persons tended to have a higher caloric expenditure per lb. of body wt. The caloric cost of stair climbing can now be predicted and utilized in writing exercise prescriptions.

10. CLOWARD, Melvyn Douglas. Adventure education and self-concept: a study of self-concept changes in elementary school children following participation in Project LIFE. M.A. in Recreation Education, 1978, 64 p. (W. Hafen)

It was hypothesized that there would be a significant positive growth in self-concept for the children as a result of the Project LIFE program. Furthermore, it was hypothesized that the change in self-concept would be greater for girls than for boys. ANOVA did not result in sig diff in the overall group scores; however, the increase in self-concept for girls was significantly greater than for boys.

11. DRAUGHON, Glenn B. Physiological and psychological factors: first team All-Region Six football players, second team All-Region Six football players, and randomly selected first team players from Region Six teams. M.S. in Physical Education, 1979, 39 p. (E. Roundy)
The purpose of this study was to assess and compare selected physiological and psychological factors among first and second team All-Region Six football players and randomly selected other first team players from Region Six teams. The players were tested on strength, speed, endurance, power, percent body fat, and self-concept. The results shows that the All-Region players were stronger, faster, and had better endurance than the randomly selected players.

12. DUNCAN, Gail Neuman. An analysis of a recreation program: a program for senior citizens in Cedar City, Utah. M.A. in Recreation Education, 1978, 75 p. (W. Hafen)
Senior citizens in Cedar City, Utah were surveyed as to their participation in recreational activities and the extent to which these senior citizens would participate in the said activities if given the opportunity. It was concluded that there was a lack of recreational opportunities, and that senior citizens need an adequate community center to carry out recreational activities. The findings of this study indicate that, for the most part, senior citizens need, desire, and would participate in a variety of recreational activities if given the opportunity.

13. EBISU, Toshimitsu. Splitting the duration of exercise: effects on cardiovascular endurance and blood lipids. EdD. in Physical Education, 1979, 84 p. (A.G. Fisher)
The purpose was to determine if split duration exercise (running 1/2 of a distance in each training session for 2 sessions daily, and running 1/3 of the distance each training session for 3 sessions daily) is as effective for increasing cardiovascular endurance and decreasing blood lipids as continuous duration exercise. 60 untrained male students were randomly divided into 4 groups including a control group. The 10 wk endurance training program was supervised and performed 3 days/wk. Training intensities were 80% of each subject's maximal HR. As long as individuals ran the same distance with identical intensities and frequencies, the effectiveness on cardiovascular function and blood lipids was not statistically different among groups, even though the duration was split.

14. GRIMMETT, Dixie. Psychological and physiological comparisons: between female athletes and non-athletes. Ed.D. in Physical Education, 1979, 187 p. (E. Roundy)

Psychological and physiological profiles were compiled for female varsity volleyball (VB) and basketball (BB) players and non-athletes. Three groups (n=12) from the 1977 California State University, Long Beach, women's VB and BB teams, along with non-athletes who volunteered from PE service classes, were measured on 21 physiological and 18 psychological components. ANOVA revealed sig diff in the following psychological traits between VB and BB players: capacity for status, sociability, social presence and tolerance. The only physiological significant difference noted between VB and BB players was weight. Between VB players and non-athletes, sig diff were recorded in pain tolerance, strength, and resting HR. Between non-athletes and BB players, differences appeared in weight, power, strength, height, estimated VO_2, working and resting HR, lung functions and reaction time.

15. HAVEN, Jeffrey L. Baseball: the origins and development of the game to 1903. Ed.D. in Physical Education, 1979, 223 p. (R. Barker)

The author sought to narrate a history of baseball from its origins to the merger of the National and American Leagues in 1903 that was interesting to sports enthusiasts and informative to researchers. He attempted to relate the significance of the development of the institution of baseball to 19th century U.S. society. The study focused on the true birth of the game, the expansion and development of the sport from amateur clubs to professional teams, the growth of professionalism under the National League, commercialization, and the dominant players and teams of that era.

16. KAMIENESKI, Robert W. Topically applied tobacco juice: its effect upon the healing of a nonpenetrating wound in the adult male rat. EdD. in Physical Education, 1979, 48 p. (R. Francis)

Through gross and histological examination of healing cells, a group of 80 rats were assigned to a treatment group or a control group. The rats were then assigned to 1 of 8 sacrifice periods, each 1 wk apart. The treatment rats were painted with tobacco juice b.i.d., the first 14 days of the experiment. The control group was painted with distilled water b.i.d., for the same period. The following conclusions were made: wounds painted with tobacco juice showed a greater degree of healing; wounds on the treatment animals were significantly smaller at sacrifice time; there appeared to be little effect in weight gain between treatment and control animals.

17. LEWIS, Glenn D. Physical education leaders at the University of Nevada - Reno: eight biographies. Ed.D. in Physical Education, 1979, 206 p. (R. Barker)
Biographically historical data of the men and women who served as PE Department heads at the U of Nevada-Reno from 1913 to 1979 were presented. The influence of these personalities on the present PE curriculum and development of facilities was also investigated. The biographies were arranged in the chronological order of the subjects' initial employment at U N-R. At the end of each biography, a brief vita sheet was included along with a photograph of the individuals.

18. LEWIS, Kathryn. Leadership: a success factor for women volleyball coaches. Ed.D. in Physical Education, 1978, 151 p. (P.E. Allsen)
Leadership styles as measured by Fiedler's Contingency Model of Leadership Effectiveness, of women VB coaches was correlated with team success. 48 coaches and team members in selected 2A, 3A, and 4A SHS in Utah participated. The Least Preferred Co-Worker (LPC) Scale, the Group Atmosphere (GA) Questionnaire, the Task Structure Rating Scale and a Coach's Personal Data Questionnaire were administered. There was no significant relationship found between the leadership styles of women VB coaches and team success. The most important variables that accounted for team success were: GA-team score, LPC score, and years of coaching.

19. OLLERTON, Christine. The choreography and videotaping of "Woman, the Pioneer." M.A. in Physical Education, 1979, 43 p. (P. Jacobson)
The purpose was twofold: to rechoreograph for stage performance the dance suite, "Woman, the Pioneer": and present it in concert; and secondly, to adapt the suite for the production of a videotape. It was concluded that historical events present valid material for dance choreography, and, when treated artistically, can be successful in terms of video production and concert presentation. Moreover, videotaping is an effective means of recording a dance production for cultural and educational means as well as for historical preservation. The videotape has been aired on BYU Channel 11 television, won 2 awards through the Public Broadcasting System, and is available for viewing through BYU Instructional Media, BYU, Provo, Utah.

20. RHODA, Leonard G. The life and professional contributions of Milton F. Hartvigsen. Ed.D. in Physical Education, 1979, 202 p. (R. Barker)
A biography of Milton F. Hartvigsen emphasized his professional contributions, his early life, his years in Grace and Pocatello, Idaho, and his years at BYU. During his 19 yrs in the public schools of Idaho, he was a successful coach, teacher, and administrator and served as president of two teachers associations. The school systems he supervised prospered under his guidance. As Dean of the College of PE at BYU, he was instrumental in the promotion of facility expansion, program development and staff growth which led to national recognition of the College. He served as a respected leader in intercollegiate athletic organizations on both regional and national levels. Moreover, he was very active in professional, civic and church affairs.

21. SHOCKEY, Jerry R. A comparison of low frequency - long duration and high frequency - short duration exercise. M.S. in Physical Education, 1979, 53 p. (A.G. Fisher)
College age students (N-54) between the ages of 18 and 25 were evaluated on VO_2 max and assigned randomly to 1 of 2 exp gps or control gp. The exp training programs consisted of either running 3 days/wk, 5 miles per day, or 6 days/wk, 2.5 miles per day. Both groups trained 9 wks at an intensity of 80-85% of measured maximum HR. No sig diff in VO_2 was found between the 2 experimental groups. Both groups showed significant gains over that of the control. It was concluded that individuals who cannot perform aerobic exercise every day may exercise every other day for a longer duration to experience equivalent gains in cardiovascular endurance.

22. SMITH, Judith K. Athletic training: a developing profession. M.S. in Physical Education, 1979, 69 p. (E. Roundy)
Athletic training began during the evolution of the ancient Olympic Games of Greece and continued during the Roman period. These early trainers started out as nothing more than rubbers and anointers of athletes. With the advent of professionalism in sports, the early trainer began to attain a professionalism of his own with new techniques and skills. Further strides were made during this time in the areas of anatomy, physiology, diet, and exercise through the efforts and writings of Galen, the physician. The profession took its greatest leap forward with the founding of the National Athletic Trainers Association

in 1950, which has helped to raise professional preparation standards and practices. This thesis emphasized the importance of NATA, as well as emphasizing the valuable contributions made by individuals and other organizations.

23. STAHELI, George. The effects of selected variables upon augmenters and reducers. Ed.D. in Physical Education, 1979, 117 p. (L. Hall)

A replication of Petrie's Large Block Experiment was used to identify Ss classified as augmenters and reducers. The augmenters and reducers were then compared on the Petrie's Small Block Test and tests of pain tolerance, field articulation, depth perception, and ability in estimating velocity. Multiple regression equations showed sig diff between the two groups on the Small Block Test in areas of pain response, estimation of passage of time, depth perception, and the ability to estimate velocity.

24. VANWOERKOM, Carol L. An instructional and physical fitness and sport package for upper elementary aged children. Ed.D. in Physical Education, 1979, 221 p. (E. Roundy)

250 subjects were measured on cardiovascular endurance and the muscular strength/endurance component of physical fitness by using both traditional and resistive forms of testing. In addition, conceptual knowledge of the muscle and skeletal system and heart and lung system was evaluated. ANOVA showed significant interaction between experimental and control groups in muscular strength and endurance of the abdominal, chest-shoulder, and elbow-shoulder areas and cardiovascular endurance. A significant difference on test scores in knowledge acquisition was also reported.

25. VICORY, James R. Delayed augmented feedback: usefulness as perceived by intercollegiate tennis athletes. Ed.D. in Physical Education, 1979, 160 p. (L. Hall)

Delayed augmented feedback presented by a newly developed microcomputer and tennis analysis system was given to the top 6 rated tennis players on both the men's and women's tennis teams at BYU. Observations were recorded during intercollegiate tennis matches and challenge matches. Results indicated that all the tennis athletes perceived the feedback to be highly useful. The usefulness of the feedback was perceived similarly across sex and skill levels. Although the athletes found the feedback to be somewhat complex, they recommended further information on the game score during the feedback and similar feedback information on the opponents. Revisions were made on the system accordingly.

26. YOUNG, Karen S. Physical fitness of secondary school boys and girls: a comparison of two programs of physical education. Ed.D. in Physical Education, 1978, 112 p. (B. Jarman)

Pre- and post -tests were administered to 213 boys and girls of the Kern High School District in the 1.5 mile run for aerobic endurance, the 440 yd run for anaerobic endurance, the sit-up and push-up test for strength, and the sit and reach test for flexibility. Comparisons of means within treatments were analyzed by a correlated *t*-test; comparisons between treatments were analyzed by ANOVA. No sig dif were found in any of the 5 tests. The exp group sig increased in strength and flexibility; present PE curriculum sig increased in flexibility.

CALIFORNIA STATE POLYTECHNIC UNIVERSITY (A.A. Ridgway)
POMONA, CALIFORNIA

27. SEYMOUR, C.J. A developmental assessment of motion prediction. M.S. in Physical Education, 1979, 130 p. (S.L. Bassin)

CALIFORNIA STATE UNIVERSITY, SACRAMENTO (A. Faria)
SACRAMENTO, CALIFORNIA

28. BAUR, Larry A. Attitudes toward intramural sports of junior high and middle school students in the Sacramento City Unified School District. M.A. in Physical Education, 1979, 118 p. (J. Bosco)

The instrument utilized to obtain the data was a 36-item, Likert-type questionnaire designed by the investigator. A r of .86 was found for reliability determined by the coefficient alpha method. Content validity was tested via Swineford's index of discrimination and curricular validity was shown by documenting the procedures used in each step of the questionnaire's development. The survey tool was administered to 1780 students and was scored by op scan. Results were evaluated by a *t*-test or ANOVA. It was found that the students had a generally favorable attitude toward intramural sports (IM). 7th grade students had a more favorable attitude toward IM than 8th grade students. Female students had a more favorable attitude than male students. Students without previous experience in interscholastic activities had a more positive attitude than students with interscholastic experience. Students who had participated in IM activities 1 yr or less had more favorable attitudes than students who had participated more than 2 yrs.

CENTRAL MISSOURI STATE UNIVERSITY (M. Lyon)
WARRENSBURG, MISSOURI

29. HOEHN, Jorja Eileen. The Knox basketball test as a predictive measure of overall basketball ability in female high school basketball players. M.S. in Physical Education, 1979, 138 p. (M.J. Barnes)

The 4 item Knox basketball test was administered to 198 girls from 9 MO SHSs during basketball tryouts and prior to any students being cut from the team. The step-wise multiple regression procedure was used to analyze the predictive value of this test. The only test item that significantly predicted ($p<.05$) the selection of players to the varsity and junior varsity teams was the dribble shoot test. The dribble shoot test also correlated significantly with the coaches' rankings of junior varsity players and varsity players. The speed pass and speed dribble significantly predicted the division between the junior varsity and varsity players. Although the comparisons were significant, the skill tests accounted for only 11.1% to 28.3% of the total variation in the dependent variables.

30. MILES, Ronda D. The effects of using a weighted volleyball to teach beginners the overhead pass. M.S. in Physical Education, 1979, 49 p. (E.B. Pelton)

College women (N=30) enrolled in beginning power volleyball (VB) classes were divided into 2 groups. Both groups were taught the overhead pass and practiced the pass an equal amount of time throughout the 20 lesson VB unit. The treatment group (N=15) used a 16 oz weighted VB for all pass practice and the control group (N=15) used a regulation 7 oz ball. The Helman Overhead Volley Test was used to measure passing ability. ANCOVA indicated that there was no sig diff ($p>.05$) between the two groups after approximately 154 min of actual pass practice. Both groups improved significantly.

CLEVELAND STATE UNIVERSITY (S. Ziegler)
CLEVELAND, OHIO

31. GILBERT, N. A comparison of black and white female athletes and non-athletes on self-esteem and social competence. M.Ed., 1979, 65 p. (S.G. Ziegler)

Black and white urban and suburban high school female athletes (N=42), (track and softball) and non-athletes (N=78) completed the Texas Social Behavior Inventory (TBSI) and the Personal Attributes Questionnaire (PAQ) at the beginning of the spring sport season. 12 separate hypotheses comparing black and white athletes with athletes, athletes with non-athletes, and non-athletes with non-athletes were examined. Results of multiple *t* tests indicated no racial diffs on either the TSBI or the PAQ. Sig diff ($p < .05$) emerged in the PAQ comparison of athletes versus non-athletes, regardless of race. This study supports previous research which has indicated that athletes tend to differ from their non-athletic counterparts and suggests that athletic status may be a more important variable than race in research on the female athlete.

COLORADO STATE UNIVERSITY (R.D. Clayton)
FORT COLLINS, COLORADO

32. WEBSTER, Richard H. *A linear regression model for functional work capacity tests*. Master of Education, 1979, 58 pp. (M. Morton)

Sedentary males (N=21), ages 28-64, were used to determine if linear regression could be used to estimate the functional work capacity from 3 or more submaximal workload HR; and the shift from test to test of the derived linear regression lines intercepts with the maximum HR line would significantly correlate with the shift of functional work capacity. Graded exercise tests (walking on treadmill, with 1 or 2 MET increments as the grade increased) were evaluated to determine the model's reliability in estimating functional work capacity. A linear regress was determined for each test, using 3 or more workload/HR points that were all below 85% of the subject's age-adjusted maximum HR. The intercept of this line with the maximum HR value attained on the first GXT was determined, and this value was compared to the maximum MET value measured by gas analysis. The average coefficient of determination for the line was .9862. The average error of the estimate was -0.09 MET (SE=1.26 METS). Estimated MET changes from the model to the MET changes using gas analysis yielded an average error estimate of -0.85 MET and SE=1.89 METS. From this data, the first hypothesis was accepted and the second was rejected.

33. MARTINDELL-JENSEN, Jane. *A comparison of the political attitudes of female and male athletes*. Master of Education, 1979. (R.D. Clayton)

Two surveys, the Eitzen-Brouillette Political Attitude Survey and the Martindell Athletic Survey were administered to 221 (104 female and 117 male) athletes from five universities: the University of Arizona, Colorado State University, the University of Colorado, the University of Northern Colorado, and the University of Wyoming. These athletes were members of the varsity track, softball, baseball, or tennis teams at their school. ANOVA was used to statistically analyze the scores ($p<.05$). The results showed that the null hypothesis was accepted for the Eitzen-Brouillette Survey, but rejected for the Martindell Athletic Survey. It seems, on the basis of the results of this study, that political attitudes differ between male and female athletes regarding athletic concerns, but not on general concerns of society.

TEACHERS COLLEGE COLUMBIA UNIVERSITY (B. Gutin)
NEW YORK, NEW YORK

34. CATELLI, Linda. Verbal and non-verbal moves in teaching: a descriptive system for the analysis of teaching in physical education. Ed.D. in Curriculum and Teaching, 1979, 246 p. (W.G. Anderson)

35. DE GUZMAN, Joseph. The effects of a semester of modern dance on the cardiovascular fitness and body composition of college women. Ed.D. in Applied Physiology, 1979, 229 p. (J.R. Higgins)

36. GOLDSMITH, Rachelle. A procedure to help preservice physical education teachers enhance their control, awareness, and satisfaction. Ed.D. in Curriculum and Teaching, 1979, 217 p. (W.G. Anderson)

37. IGBANUGO, Veronica. Learning activity packages in exercise physiology. Ed.D. in Applied Physiology, 1979, 265 p. (B. Gutin)

38. INBAR, Omri. Acclimatization to dry and hot environment in young adults and children 8-10 years old. Ed.D. in Applied Physiology, 1979, 171 p. (B. Gutin)

39. LEVISON, Mitchell. A descriptive instrument to investigate teacher references to the task environment during facilitation of perceptual-motor skills. Ed.D. in Curriculum and Teaching, 1979, 166 p. (W.G. Anderson)

40. LOW, Murray. *Female marathon runners: cardiopulmonary function and body composition as compared to female recreational runners and sedentary females*. Ed.D. in Applied Physiology, 1979, 156 p. (B. Gutin)

41. NEMETZ, Klaus. *Dynamic response parameters in human movement reproduction*. Ph.D. in Educational Psychology/Motor Learning, 1979, 188 p. (A.M. Gentile)

42. PALGI, Yehoshua. *Physiological and anthropometric factors underlying endurance performance in boys and girls*. Ed.D. in Applied Physiology, 1979, 137 p. (B. Gutin)

43. WITT, Verla. *Skill acquisition under variable temporal constraints: the effect of practice conditions*. Ed.D. in Motor Learning, 1979, 161 p. (A.M. Gentile)

44. YU, Chung-Kit. *The intertrial interval and sequential effects in simple reaction time*. Ed.D. in Motor Learning, 1979, 103 p. (A.M. Gentile)

EAST CAROLINA UNIVERSITY (R. Gantt)
GREENSVILLE, NORTH CAROLINA

45. ADAMS, T.M. *A cinematographic analysis of a single underwater front crawl armstroke*. M.A. in Education, 1979, 23 p. (R. Martinez)

College varsity male swimmers (N=3) with national qualifying times were filmed (64 frames per sec) by a camera located underwater as the Ss swam for max velocity while using the front crawl stroke through a restricted filming area. A plexiglas grid was positioned between the camera and Ss, and tape markers were attached to Ss. A complete arm cycle for each S was analyzed by 3 observers with the following conclusions: velocity remained nearly constant during a stroke except for a brief negative acceleration immediately before the opposite hand entered the water, both hands were in the water about half of the time during a single stroke, and the initial underwater movement of the hand during the armstroke was begun with a short outward press of the hand rather than an inward press as is traditionally taught.

46. BRASWELL, E.W. *A history of intercollegiate tennis at East Carolina University from 1938 through 1975*. M.A. in Education, 1979, 183 p. (E. Schwarz)

Team rosters, records, and factors that have limited the development of the tennis program at ECU are presented.

47. KEAR, R.A. The effects of balance-seat horseback riding on balance in normal and mentally retarded elementary school-age children. Master of Arts, 1979, 61 p. (J. Grimsley)
Normal and mentally retarded elementary school children were assigned to the following groups for horseback riding: normal Ss (N=5, ages 8-12) and mentally retarded (N-7, ages 9-11). Control groups that did not practice riding included normal Ss (N=5, ages 8-12) and mentally retarded (N=7, ages 8-11). Balance tests given before and after an 8/wk, 16 lesson, riding program included the stork stand, balance beam walk, and Bass Dynamic Balance. Dependent t's revealed no sig change ($p > .05$) in balance occurred for any group on any of the balance tests.

48. SHERMAN, M.L. Traditional wrestling styles: A survey and analysis. M.A. in Education, 1979, 138 p. (R. Lauffer)
A comprehensive study of wrestling classified as to style was conducted on the following: Submission styles (Ancient Greek Pankration, Judo, and Sambo); Pinning styles (Ancient Egyptian, Yagli, Lancashire, American Collegiate, Freestyle, and Greco-Roman); Belt and Jacket styles (Glima, Lucha, Mongol, Schwingen, Sumo, and West Country); Throw styles (Ancient Greek, Cumborland and Westmorland, and Nuba). Essential rules, techniques, and cultural and social aspects associated with the different styles were presented. Diverse reasons attributed to the practice of wrestling in various cultures included: military training, settling disputes, educational values, and simply for sport. An apparent continuity of wrestling styles was found to exist through the ages, indicating a transfer of ideas within and between cultures.

49. WARD, A.W. A comparison of the effectiveness of teaching health by television and classroom instruction. Master of Arts, 1979, 52 p. (R.C. Barnes)
The Shaw Health Knowledge Test and Vincent Scale of Health Attitudes were given to college students before and after a semester of HE instruction by either conventional classroom methods (N=85) or a TV/classroom method (N=90). The Registrar randomly assigned Ss to the different sections, and there were no sig diff between sections in race, sex, or classification. The same syllabus and units of time were used in both instructional programs. Dependent t's revealed health attitudes of the conventional group were sig more acceptable toward crying during

grief ($p<.01$) following instruction, but no sig changes occurred in attitudes toward divorce or drinking while driving ($p>.05$). Attitudes of the TV group were not sig affected ($p>.05$) on any of the 3 criteria measured. Dependent t's indicated both groups improved health knowledge ($p<.01$), and ANCOVA revealed that the adjusted $\bar{X}$ gain of the TV group was sig superior ($p<.01$) to that of the conventional group.

EASTERN ILLINOIS UNIVERSITY (W. Buckellew)
CHARLESTON, ILLINOIS

50. LOZAR, Janet. *A comparison of the effects of two therapeutic exercises on the muscle action potention of the vastus medialis*, 1979. 66 p. (R Fischer)

EMG was utilized to compare the effects of two therapeutic exercises on the action potential of the vastus medialis at two workloads in knee extension of 11 varsity collegiate female athletes. Workloads of 1/2 and 3/4 of the maximum weight that could be lifted 180° by knee extension were utilized. Ss were tested on a Universal Knee Extensor Table, with thighs strapped to the table. Exercise A consisted of knee extension with 1/2 and 3/4 max weight, from 90° to 180° with a 4 sec hold at 180° followed by flexion to 90°. Exercise B consisted of knee extension from 90° to 180°, 15° flexion, 15° extension, and then flexion to 90°, using the same workload as in Exercise A. Each exercise lasted for 10 sec. Amplitude and frequency of the spikes on each interference pattern of the EMG were determined. Mean amplitude was multiplied by the frequency to quantify the data for each trial. ANOVA revealed no difference in action potential between the two exercise methods ($p>.05$), but there was a difference in action potential due to the weight lifted ($p<.05$).

51. FALCONER, Timothy J. *The relationship between oxygen debt size and blood pH change during recovery from exercise on the bicycle ergometer and treadmill*. 1979. 36 p. (T. Woodall)

To investigate O_2 debt and blood pH change during exercise recovery, 10 male members of the Eastern Illinois University track team, chosen on the basis of their levels of physical condition, were exercised on the treadmill and bicycle ergometer on alternate days. Preceding each exercise a micro-blood sample was taken. The subjects then exercised to the point of perceived exhaustion and O_2 debt was determined. 3 min after completion of the exercise another micro-sample of blood was taken. Pre- and post-exercise blood samples were analyzed on a pH meter. Rho correlation and the _t_-test were used. There was no relationship between the size of the O_2 debt and the pH change in recovery. No differences were found in O_2 debt and blood pH changes between treadmill and bicycle ergometer ($p > .05$).

52. DeMICHAEL, John. The history of basketball at Stonington High School, M.S. in Physical Education, 1978, 124 p. (W.S. Lowell)

EASTERN KENTUCKY UNIVERSITY (H.Z. Holmes, Jr.)
RICHMOND, KENTUCKY

53. LAMANCA, John Joseph. Intramural interests of male Eastern Kentucky University students. Ed.S. in Physical Education, 1979, 70 p. (J. Deck)

Male Ss (N=833) enrolled in the general studies PE courses were administered a questionnaire pertaining to intramural and instructional interests and effectiveness of program publicity. Data were divided into two categories, nonparticipants and participants. Results indicated that many aspects of the intramural publicity program were ineffective. Ss exhibited an interest in the addition of co-ed recreational and individual or dual activities. Instruction was desired in many of the activities which had high participation rates. Participation on an organized or competitive basis was favored.

54. NANCE, III, James Emmett. A biomechanical analysis of selected parameters of the front handspring, front salto. Ed.S. in Physical Education, 1979, 41 p. (H. Holmes)

Using cinematography and a computerized graphic tablet system, the flight of the COG, changes in joint angles, horizontal velocities, and time intervals in the front handspring, front salto (FHFS) were studied. Male SHS Ss (N=3) were judged to be of excellent (E), good (G), and average (A) skill. The sequence was divided into preparatory, hand-contact, first flight, foot-contact, second flight and landing phases. 3 elements differentiated E from G and A: a high initial horizontal velocity, more nearly maintained through the FHFS; time on the mat in the hand and foot contact phases was minimized with effective blocking and rebounding technique; and the COG was high throughout the FHFS, but particularly in the flight phases.

FLORIDA STATE UNIVERSITY (P.W. Everett)
TALLAHASEE, FLORIDA

55. BAILEY, Rebecca Anne. *The effects of sensorimotor training during infancy on the motor skill achievement of young children in a physical activities program*. Ph.D. in Physical education, 1980, (E. Burton)

Ss consited of 85 children between the ages of 2 yrs, 6 mos, and 4 yrs, 9 mos, classified as either trained or untrained. Trained Ss had previously participated in a sensorimotor training program during infancy while the untrained had not. Ss were pretested and posttested in 2 instruments, the O.S.U. Sigma and the PDMS. A randomized block method was utilized to create a treatment and a control group. The treatment group spent 1/2 hr/day, 5 days/wk, for 10 wks in an instructional activities program. The control group continued their normal preschool routine. Results indicate that the training program and the treatment program can significantly improve children's motor skill performance. It also appears that a treatment program of instructional physical activities is sufficient to equalize the skill performance of trained and untrained children. However, further investigations are warranted.

56. BENSON, Joseph A. *The effects of the associate teaching experience on the role expectations of secondary school physical education associate teachers*. Ph.D. in Physical Education, 1979. 190 p. (L. Janet Wells)

The expectations of 50 associate teachers (ATs) concerning the importance of 8 roles performed by secondary school PE teachers were measured prior to and at the conclusion of a 10 wk associate teaching experience using the Weber Teacher Competency Questionnaire. The role expectations of their supervising teachers (STs) concerning the importance of these 8 roles were also determined. AT's pre- and post-experience expectations were compared to each other and to those of their STs. For analysis, $\bar{X}$ scores were compared for all Ss and then grouped by ATs' sex and the teaching level of the experience (SHS or JHS/MS). Results showed no sig diff between ATs' role expectations prior to and at the conclusion of the associate teaching experience. Only males demonstrated expectations sig diff from their STs, and this was true on both the pre and post-experience questionnaires. JHS/MS ATs displayed a tendency to develop role expectations which were more like their STs than they had been at the beginning of their experience.

57. FRAZIER, Bobby A. The current socio-economic status of black football and basketball athletes who enrolled as freshman at Bethune-Cookman College and Florida A & M University during the years 1965-1970. Ph.D. in Physical Education, 1979. 108 p. (B.J. Jones)

Questionnaires were sent to 401 former college athletes; 251 (62.5%) of the Ss responded. The data were interpreted by descriptive analyses and % of total response. Among the findings were: 78% received the BS or BA degree; 74% of those who graduated were employed in the public schools as coaches, PE teachers, elementary school teachers, HE teachers, or administrative assistants; 38% of those who received bachelor's degrees had earned higher degrees; 57% of those who entered college with less than a 2.0 GPA graduated; academic deficiency was the primary cause of failing to graduate; $\bar{X}$ salaries of the graduates and non-graduates were similar; highest salaries were reported by the 9% of the Ss who were professional football players.

58. MOZAFARI, Amir Ahmad. A study of physical education programs in the secondary schools of Florida. Ph.D. in Physical Education. 1979. 254 p. (P.W. Everett)

210 schools in FL participated in this study. The instrument used to collect data was "Assessment Guide..." published in 1977 by AAHPER. The questionnaire was sent to the director of the PE dept of the secondary schools for whom permission was granted. 2 computer programs were utilized to analyze the data. The 1st program included the frequency and % analyses of each item of the questionnaire for each part (the administration of the instructional, intramural, and athletic programs; the instructional program; the intramural program; and the athletic program) in 2 categories of school level (MS or JHS and SHS) and school size (0-500, 501-1000, 1001-1500, 1501-2000, and 2001-over). The 2nd program included testing the 12 null hypotheses with the SPSS program. 2 nonparametric statistics, Spearman Rank Order correlation and the Kruskal-Wallas One Way-ANOVA, were utilized.

59. ODOM, Corrie J. The effects of menstruation on the basketball skill performance of intercollegiate basketball players. M.S. in Physical Education, 1979. 106 p. (D.J. Johnson)

Basketball skill performance of female intercollegiate basketball players was investigated to determine the possible differences which might exist in skill performance between the 1st day and the 14th day of the menstrual cycle. 11 Ss were tested over a 4/mo period during the 1977-78 basketball season using the Knox Basketball Test. The Ss were tested twice during each cycle until scores were obtained for 3 complete cycles. Testing was conducted on the 1st day of the menstrual cycle, day 1 being the first day of menses, within 24 hrs of the 1st sign of bleeding. The 2nd test occurred on day 14 of the menstrual cycle, during the intermenstrual period, with the 24th hr of the 14th day. A 2-way ANOVA with repeated measures showed sig diff in skill performance between day 1 and day 14 of the menstrual cycle on 3 of the 4 test items of the Knox Basketball Test and on the overall Knox test.

60. PENNINGTON, Jude C. Impact of Title IX on the status of the physical education curricula of Virginia secondary public schools as perceived by department chairpersons. Ph.D. in Physical Education, 1979. 118 p. (J. Wells)
The instrument focused on 4 particular areas of the program: the scheduling, attitudes, and effects on student skill development of coeducational PE classes; status of selected aspects of the PE curriculum; status of PE activities; and the perceived impact on the program. An 83% response rate was obtained. Data were analyzed by using frequency distributions and percentages. The results indicated the majority of respondents felt that some PE instruction should be taught on a coed basis, but that most students preferred separate PE classes. Both boys and girls were viewed as feeling limited in skill development when a member of the opposite sex was present. Staff relationships, instruction, student participation, grading, facility use, and activity modification were cited as generally remaining the same or improved because of Title IX. However, teaching conditions and the management of discipline problems were negatively affected. It was reported that before 1975, few activities were taught on a coed basis. In the compliance year (1978) however, the majority of activities were presented on a coed basis or were not taught. Rhythmic activities did not evidence appreciable difference. Overall, it was shown that the majority of PE curricula of VA Secondary Public Schools were in compliance with Title IX.

61. RAZZOOK, Moayyad E. A comparison of the effects of a standard weight training program and a dynamic weight lifting program on the muscular development of male college students. Ph.D. in Physical Education, 1979. 221 p. (P.W. Everett)

44 Ss were divided into 2 groups who trained 3 days/wk for 9 wks. Each training program was divided into 3 training cycles. Ss were tested in muscular strength, muscular power, and muscular endurance and measured for body wt and selected girth measurements of left and right biceps flexed, chest expanded, and left and right thigh contracted after 3, 6, and 9 wks of training. The data were described graphically and analyzed statistically. Intercorrelations among the variables for both groups were computed and the percentage increases were calculated. Statistical treatments included the paired *t* test, 1-way ANOVA for repeated measures, Newman-Keuls Test, and 1-way ANCOVA. The results indicated that both groups had significantly increased ($p<.001$) in muscular strength, power, endurance, and muscle girths. A highly sig diff was found in muscular strength favoring the dynamic weight lifting group. There were no sig diff ($p>.05$) between the 2 groups in muscular power, endurance, body wt, and muscle girths (except for left thigh contracted) after 9 wks of training.

62. SANDERS, Jerry D. *Therapeutic exercise for quadriceps femoris during knee immobilization with implications for chondromalacia patellae*. M.S. in Exercise Physiology, 1979. 95 p. (D. Johnson)

Male varsity swimmers (N=24) were randomly assigned to a control and 2 treatment groups. 1 treatment group performed a supine isometric straight-leg raise (SULR) whereas the other performed a seated isometric straight-leg raise (SELR). All Ss performed 6, 6/sec isometric contractions with the dominant thigh 3 times a week for 8 wks. A specially designed SULR apparatus allowed an isometric contraction of the knee extensors with a hip angle of 170°, while the SELR apparatus ensured a hip angle between 110° and 130°. Peak quadriceps muscle torque was assessed with a Cybex isokinetic dynamometer at angular velocities of 30°/sec, 90°/sec, and 180°/sec at the start of the study, and at the 2nd, 4th, 6th and 8th wks. ANOVA revealed a sig diff for peak torque between the control and SELR group for the dominant thigh at an angular velocity of 180°/sec ($p<.05$). In addition, trial 1 showed sig greater peak torque of the non-dominant thigh at an angular velocity of 90°/sec than trials 2, 3, 4, or 5 ($p<.05$). At 180°/sec for the non-dominant thigh, trial 1 showed significantly greater peak torque than trials 2, 3, or 5 ($p<.005$). No other sig results occurred.

63. VIRGILIO, Stephen J. The effects of direct and reciprocal teaching strategies on the cognitive, affective, and psychomotor behavior of fifth grade pupils in beginning archery. Ph.D. in Physical Education, 1979. 139 p. (J. Wells)

5th grade students (N=46) were randomly assigned to 1 of 4 groups and the groups to 1 of 2 treatments. Ss were instructed in each group for 6 wks, meeting 3 times/wk for 30 min. The testing instruments used were The Archery Knowledge Test for cognitive behavior, The Piers-Harris Children's Self-Concept Scale for affective behavior, and The AAHPER Archery Skills Test for psychomotor behavior. A 2x2 ANOVA yielded no sig diff between the effect of the direct and reciprocal teaching strategies on the cognitive, affective, and psychomotor behavior of 5th grade pupils. Therefore, neither teaching strategy was more effective in developing archery knowledge, self-concept, or archery skill.

HOWARD UNIVERSITY (M. Leppo)
WASHINGTON, D.C.

64. ORDOR, O. E. Cardiovascular responses to different body positions during maximal and submaximal arm ergometry in young college males. M.S. in Physical Education, 1979, 140 p. (R.G. Israel)

College males (N=16) were used to compare cardiovascular responses to diff body positions (standing, sitting, and supine) during max and submax arm ergometry work. The specific variables compared were: submax and max HR, total endurance time and recovery HR. The arm ergometry stress test consisted of submax and max phases with a 10 min rest interval between phases. Submax test loads were: 75, 150 and 225 kpm/min. The load was sequentially increased by 150 kpm/min every 2 min until the S could no longer keep pace with the metronome. The treatment order was randomized. ANOVA indicated that max HR and total endurance times were sig greater in the standing and sitting positions than in the supine position. The $\overline{X}$ recovery HR was sig lower in the supine position. The researcher concluded that standing and sitting were the most efficient positions for evaluating cardiovascular performance.

65. SAYAH, M. Effects of arm ergometry exercise on the reaction time, movement time, and response time of the lower extremities. M.S. in Physical Education, 1979, 38 p. (R. G. Israel)

College males (N=30) were tested on simple RT, MT, and Resp. T on a task which involved jumping forward upon initiation of a visual stimulus a distance of 50 cm. The fatiguing task involved an arm ergometer exercise consisting of 3 min stages beginning at 0 kpm/min, progressively increasing by 150 kpm/min until the S maintained a 180 HR for 15 sec. Practice and warm-up trials were given to control learning and warm-up decrement factors. The pre-test consisted of 4 trials with 15 sec intervals between trials. After the arm exercise, the S was given a 1 min rest prior to the post-test, after which, there was a 3 min rest before the recovery 1 test. Recovery 1, 2, and 3 tests were interspaced by 3 min rest intervals while the 4 trials within treatments were interspaced by 15 sec rest intervals. ANOVA with repeated measures indicated ($p < .01$) that RT, MT, and Resp. T were sig faster during the pre-test than during the post-test and recovery. No sig diff existed between recovery tests. It was concluded that the upper extremities fatigue caused decrement in the performance of the lower extremities.

ILLINOIS STATE UNIVERSITY, (V.R. Crafts)
NORMAL, ILLINOIS

66. LANGSTON, William F., The professional preparation of head coaches in central Illinois. M.S. in Physical Education, 1978, 63 p. (V.R. Crafts)

The professional preparation of men and women head coaches (N=166) in SHS in Central Illinois was surveyed and comparisons were made to the standards established for coaching certification by AAHPER. Results supported the prediction that a majority of the coaches (54%) would meet the standards; 56% of the men coaches and 49% of the women coaches met the standards. When all areas within the standards were considered, the percentage of qualified coaches were PE majors (77%), PE minors (22%) and non-physical educators (4%).

IOWA STATE UNIVERSITY (J. Puhl)
AMES, IOWA

67. FREDERICKSON, Cindy. Effects of training on iron status of young women cross country runners. M.S. in Physical Education, 1980, 123 p. (J.L. Puhl)

SHS women runners (N=8) were studied during a 10 wk competitive cross-country program to determine effects of training on iron status. Hemoglobin (Hb), packed cell volume (PCV), serum iron

(SeFe), total iron-binding capacity (TIBC), transferring saturation (%Sat) and free erythrocyte porphyrin (FEP) were assessed prior to training, on 5 times during the season and once a month for 3 mos following training (detraining). Identical blood analyses were performed on 11 nontraining SHS women (comparison) on 3 occasions within a 1 mo period. VO_2 max of the women runners increased from $\bar{X}=48.4\pm0.98$ to 51.8 ± 0.99 ml/kg·min^{-1} ($p<0.05$) and initial step-test HR decreased 12.8% ($p<0.01$) during the season, indicating a training effect. ANOVA indicated sig diff across the 9 test periods for all blood variables of the runners with the exception of SeFe and %Sat. Initial and post-training Hb and PCV values were not sig diff; however, sig decreases ($p<0.05$) in Hb (8.8%) and PCV (8.3% were noted during the first week of training. FEP concentrations sig increased during training. All blood variables had returned to pre-training values by the end of the detraining period. Although mean values of all variables stayed within normal ranges during this investigation, 5 of the 8 women runners had below normal values in at least 2 of the variables during training, suggesting an iron cost associated with training, which may increase the potential for anemia in women with low initial iron stores.

68. KRUSE, S.J. Indications of red blood cell production and destruction during training in young women. M.S. of Education in Physical Education, 1978, 100 p. (J. Puhl)

The effects of strenuous physical training on selected hematological variables of 10 young women runners (SHS) were examined during a cross-country season. The training, which was 80% distance and 20% sprint work, occurred 6 days/wk; twice a day the 1st wk ($\bar{X}$ distance 63 miles per runner) and then once a day for the rest of the season ($\bar{X}$ distance 35 miles per runner). A comparison group consisted of 12 SHS nontraining females of similar body composition. Assessments of RBC count, hemoglobin, hematocrit, reticulocyte count, osmotic fragility, MCV and MCH were made in both groups. Blood samples were collected over an 8 wk period for the exp group and a 3 wk period for the comparison group. The comparison group showed no change in any of the blood variables or indices. At the beginning of training, a trend of decreasing (NS) RBC count, hemoglobin, hematocrit, osmotic fragility and MCH values was observed for the experimental group. MCV increased sig ($p<.0.05$) during the 1st wk of training. These data suggest that these runners had larger, but fewer red blood cells after 1 wk of strenuous training. In subsequent wks, all measured hematological values returned to near initial pre-test levels. Reticulocyte count showed no change throughout the testing period for either group. A large increase in training intensity or duration may cause a temporary "sports anemia" trend in already moderately trained young women.

KANSAS STATE UNIVERSITY (C.B. Corbin)
MANHATTAN, KANSAS

69. ALBRIGHT, ROBERT. A comparison of metabolic measurement techniques. M S. in Physical Education, 1979, 67 p. (W.B. Zuti)

70. JORDAN, Jill A. An evaluation of Kansas State University's graduate students' opinions and attitudes about the lecture-lab approach to physical education. M.S. in Physical Education, 1978, 73 p. (D.R. Laurie)

71. SMITH, Ellen L. Comparison of extrapolated maximal workloads from various submaximal loads. M.S. in Physical Education, 1979, 34 p. (W.B. Zuti)

LAKEHEAD UNIVERSITY (T. Song)
THUNDERBAY, ONTARIO, CANADA

72. BARRY, Sean G. The relationship of pre-competition arousal assessments to self-perceived performance competencies in collegiate wrestlers. M.S. in Theory of Coaching, 1979, 94 p. (B. Rushall).

The research design selected was a no. of replications of a single S case study. A modified version of Rushall's Pre-Competition Psychological Checklist allowed each S to report his pre-match arousal symptoms and (excitedness) level, his estimation of winning, and the post-match assessment of his performance for each match. The data were analyzed to determine the existence of arousal patterns that were performance-grade specific on a S category scale, the arousal estimate and performance level relationship, the relationship between estimation of winning and performance, the arousal estimate and estimation of winning and performance level. The results indicated that all Ss exhibited performance-grade specific arousal patterns; the highest caliber wrestlers illustrated increased sensitivity of pattern indicators and performance discriminators. Across all wrestlers, the relationship between arousal and performance was positive and linear thereby supporting the Drive theory. This information suggested that the highest caliber wrestler also experienced the greatest control of arousal levels and symptoms.

73. CIPRIANO, Nick. The effect of seasonal wrestling training and unavoidable interventions on selected physiological parameters. M.S. in Theory of Coaching, 1979, 93 p. (T. Song)

Measures of aerobic and anerobic power, PWC_{170}, resting, maximal and recovery HR were taken over an 18 wk wrestling season. The study also sought to determine the effect of unavoidable interventions (final examinations and Christmas holidays) on the training program; and to determine whether peak levels were found on the parameters just prior to the College and National wrestling championships. PWC_{170}, recovery HR and anaerobic power were measured every other week, and resting, maximal and recovery HR and VO_2 max were tested monthly. ANOVA and the Tukey test for making contrasts indicated that VO_2 max and resting HR changed sig ($p < .05$). The unavoidable interventions were detrimental to the fitness level, and the training effect that had occurred prior to the intervention period totally deteriorated over the intervention period. Peak levels of fitness were achieved just prior to the College and National championships, thus suggesting that the wrestlers were not experiencing symptoms of overtraining nor had reached peak fitness prematurely.

74. DONOHUE, Sean M. A simple technique for measuring maximum aerobic capacity and its relation to state of training. M.S. in Theory of Coaching, 1978, 57 p (N. LaVoie)

Trained (N=20) and untrained (N=20) Ss, 18 to 42 yrs, participated in the study. Participants who accumulated in excess of an average of 50 Cooper points per wk were considered as being trained. The measurement of ventilation was used as a measure of maximum aerobic capacity. Reliability of the measure was established by test-retest. Trained Ss had a sig greater $\bar{X}$ maximum aerobic capacity than the untrained Ss. VO_2 values correlated sig with maximum aerobic capacity values. Age correlated sig higher with VO_2 than with maximum aerobic capacity. There was no evidence that the maximum aerobic capacity test was any less efficient than the VO_2 test for discriminating between levels of training, but the former was much easier to administer. Since maximum aerobic capacity was less related to age than was VO_2, it might be a better test for evaluating a person's state of training.

75. McDONALD, Calvin E. The effects of concentric and eccentric contractions on strength, retention, and bilateral transfer. M.S. in Theory of Coaching, 1978, 90 p. (T. Song)

Ss were male volunteers (N-22) 16-17 yrs. Following a preliminary training and safety period the subjects were pre-tested on static flexion, static extension, dynamic flexion and dynamic extension at multiple angles of 90, 105, 120, and 135 degrees. Both groups performed 3x6 RM at a velocity of 7.2 RPM. Ss were also tested after the 6 wk training program and after a 4 wk retention period. Data were analyzed with a four-way split plot ANOVA, t-tests and % changes. Results indicated that the strength training methods improved static and dynamic strength, but no sig diff between methods. A sig diff was demonstrated among test angles; specificity between static and dynamic testing procedures was present; there was a wide range of response among Ss; eccentric tension was greater than concentric or isometric tension; following 4 wks of detraining neither group showed a sig strength loss; neither program resulted in sig transfer of strength; and the trained arm was superior ($p<.05$) to the non-trained arm on the 4 test items.

76. NELSON, Marilyn R. The prediction of world records in athletics and swimming by a time-series analysis. M.S. in Theory of Coaching, 1979, 102 p. (B. Rushall)

World records in swimming and athletics were analyzed to relate the time of their occurrence to their magnitude in order to predict future record performances. Records were considered from 1945 or the earliest date after 1945, to 1977 and subjected to a time-series analysis (Box-Jenkins method) to determine predicted values for 1978 through 1984. Predictions and their confidence limits were developed for all events. A 5% error rate was considered as the widest acceptable degree of error. Only track events fell within this criterion range and therefore contained adequate predictions. Swimming and field events were mainly unacceptable in light of the predictions which were made. Several variables affecting predictions were discussed. The prediction of world record performance trends in swimming, track, and field was found to be unsatisfactory when world records served as source data.

LAMAR UNIVERSITY (R. Holt)
BEAUMONT, TEXAS

77. AINSWORTH, Paula E. Margaria muscular power norms for females high school through college. M.S. in Health and Physical Education, 1979. (R. Holt)

The purposes of the study were threefold: to establish norms for Margaria's Test for maximum anaerobic power in females; to compare Kalamen's and Margaria's methods for determining maximum anaerobic power; and to compare power scores of female physical education majors with non-majors. Ss (N=1365) included SHS students (N=800), college students (N=500) and PE majors (N=65). t tests were used for comparisons. A sig diff was indicated between Kalamen's and Margaria's Tests ($p<.05$). Since the female Ss had difficulty performing Kalamen's Test, Margaria's Test was chosen for this study. Percentile norms were established for SHS age groups and college females. Horsepower scores of PE majors were significantly higher than those of college females ($p<.01$).

LOUISIANA STATE UNIVERSITY (J.K. Nelson)
BATON ROUGE, LOUISIANA

78. HOLLIFIELD, N.L. Effect of prior performance experience before audiences on a dominant and nondominant motor response. Ph.D. in Physical Education, 1979, 57 p. (E.G. Hall and J.K. Nelson)

80 9-yr-old boys were classified as experienced or nonexperienced based on prior youth sport experience. Half of each group learned a rotary pursuit task to a criterion of 60% accuracy (dominant response); the other half received no practice (non-dominant). The groups were again divided for task performance in an audience or no audience situation. A 2x2x2 ANOVA was used to analyze the data. Results failed to support Zajonc's social facilitation theory or Cottrell's modification of the theory. No differential experience effects were evident, indicating that any aversive response to an audience is not a well conditioned or general response in young boys.

79. JOHNSON, Robert L. The effects of various levels of fatigue on the speed and accuracy of visual recognition. Ph.D. in Physical Education, 1979, 70 p. (J.K. Nelson)

Volunteer Ss (N=36) were required to learn certain dot patterns and then divided into 2 groups based on memory set size. The memory set items and alternates (items never seen by the Ss) were presented by a tachistoscopic slide projector. Target items were of 5 types: high goodness; low goodness; alternate high similarity to high goodness; alternate high similarity to low goodness; and alternate items of low similarity to both types of target items. Fatigue levels were no fatigue, 80% PWC_{170} and 100% PWC_{170}. Ss responded to each item while pedaling on a bicycle ergometer. Scores were analyzed by correctness and response time. Results indicated that the exercise stress employed did not affect overall recognition time. However, high goodness items produced faster response times. Regression analyses of memory component stages evidenced an arousal effect in the form of an inverted U in the comparison stage of memory.

80. SOLMON, M.A. The effects of varying levels of information processing loads: relationship to age. M.S. in Physical Education, 1979, 85 p. (J.R. Thomas)

The differential developmental relationships of varying information processing loads in the acquisition of a simple motor task were examined. 8-yr-old boys, 12-yr-old boys, and adult males (N=60 each) were randomly assigned to 1 of 6 exp groups within each age level. 3 groups at each level received general KR and the other 3 were given precise KR. Post-KR interval conditions of 3, 6, 12 sec were tested within both KR conditions. A ballistic movement task was used; KR was given after each of 41 learning trials, then withdrawn for the last 16. CE, VE and AE were analyzed independently for the learning and retention phases. MANOVA and ANOVA were used in the analyses of data. Although age and block effects were evident, the differential effects of varied processing loads across age were not delineated.

MIDDLE TENNESSEE STATE UNIVERSITY (P. McClellan)
MURFREESBORO, TENNESSEE

81. JONES, P.L. A survey of Southeastern Conference women's basketball coaches and Ohio Valley Conference women's basketball coaches on the overall effects of pre-season weight training. D.A. in Physical Education, 1979, 66 p. (M. Whaley)

82. McDONALD, J.C. Status of physical education graduates of Towson State University. D.A. in Physical Education, 1979, 91 p. (R. Ballou)

83. MOSER, D.D. An investigation of the duties performed by head coaches of boy's basketball and football teams within the secondary schools of Tennessee. D.A. in Physical Education, 1979, 80 p. (G. Penny)

84. NEILSON, M.J. A comparison of traditional instruction versus manual spotting instruction in teaching beginning springboard diving. M.S. in Physical Education, 1979, 65 p. (R. Ballou)

85. NEILSON, R.L. An analysis of intramural sports programs in state supported senior universities in Tennessee. D.A. in Physical Education, 1979, 75 p. (S. Hall)

86. SHAWVER, C.A. The effects of participation in selected risk college physical education classes on a student's self concept. D.A. in Physical Education, 1979, 124 p. (S. Hall)

87. WOODRING, L.H. A survey of perceived coaching competencies, professional preparation, and athletic participation of Florida's secondary interscholastic female coaches. D.A. in Physical Education, 1979, 140 p. (G. Penny)

MISSISSIPPI UNIVERSITY FOR WOMEN (Dorothy Burdeshaw)
COLUMBUS, MISSISSIPPI

88. WEED, Mary Jane. Energy cost in trained and untrained college women. M.S. in Physical Education, 1979, 47 p. (D. Burdeshaw)

NEW YORK UNIVERSITY (R.A. Weiss)
NEW YORK, NEW YORK

89. NATHANSON, Stephen J. The identification of competencies approriate for athletic coaches and recommendations for a competency based coaching education program for the four year colleges and universities of the City University of New York. Ed.D., 1979, 174 p. (S.F. Pechar)

Responses from three groups of educators involved with coaches were obtained through the use of a questionnaire which was pretested for reliability. Information from the questionnaire was analyzed using an arbitrary scoring method and a mean score cutoff point. It was recommended that all prospective athletic coaches in New York State be required to demonstrate selected competencies at teacher education institutions in New York State prior to coaching assignments, or at in-service centers for those who have been coaching.

90. REIME, Virginia A. The relationship between degree of premenstrual distress and changes in agility and endurance that occur during the menstrual cycle. Ph.D., 1978, 105 p. (R.A. Weiss)

Ss were classified as severe, moderate or no distress in each of the categories studied (psychological, musculo-skeletal, gastro-intestinal) and then tested on the agility and endurance measures premenstrually and intermenstrually for 2 consecutive menstrual cycles. Data were analyzed by factorial ANOVA. In agility, no sig diff were found among levels of distress; sig diff were found between intermenstruum and premenstruum in all categories; and no sig interraction was found between levels of distress and menstrual phases. For endurance, no sig diff were found among levels of distress; a sig diff was found between intermenstruum and premenstruum for the psychological category but not for the musculo-skeletal or gastro-intestinal categories, and no sig interaction was found between levels of distress and menstrual phases.

91. SIFF, Sandy Joel. The effects of the use of physical education paraprofessionals upon selected physical education objectives pertaining to fourth, fifth, and sixth grade boys and girls. Ph.D., 1979. 217 p. (S.F. Pechar)

A PE program conducted with the classroom teacher and the PE paraprofessional (exp group) was compared to a program taught by the classroom teacher alone. Dependent variables were: achievement in fundamental skills in PE, development of knowledge and understanding of PE, and development of physical fitness. Ss were 4th, 5th, and 6th grade boys and girls. Instruments used were as follows: Hanson's and Latchaw's Motor Skill Tests, The Indiana Physical Fitness Test and the AAHPER Cooperative PE Test. Using a nonequivalent control group design, ANCOVA was used to test the three hypotheses. The exp group improved significantly higher in fundamental skills in PE, degrees of physical fitness, and knowledge and understanding in PE than did the control group.

NORTH CAROLINA CENTRAL UNIVERSITY (R.E. Townes)
DURHAM, NORTH CAROLINA

92. MANIRE, Janis Ellen. Throwing accuracy of ninth grade students of high, average, and low intelligence quotients. M.S. in Physical Education, 1979, 62 p. (J. Rowe)
High IQ (116-132), low IQ (68-84) and average IQ (97-103) Ss (N=20 in each group) were tested on throwing accuracy. t tests showed sig higher performance ($p < .05$) of high IQ Ss over low IQ and average IQ Ss over low IQ. No sig diff was found between high IQ and average IQ Ss.

93. SHAW, Maebell Moore. Academic performance of athletes and non-athletes. M.S. in Physical Education, 1979, 48 p. (R.E. Townes)
Ss were 7th, 8th and 9th grade girl athletes and non-athletes. Grades in English, mathematics, science and history during the 1976-79 school years were used as the measure of academic performance. The results indicated that there was no sig diff between the academic performance of athletes and non-athletes in any of the grades.

94. SMITH, Rex R. The effects of circuit training on the performance skills of beginner and advanced beginner swimmers, 1979, 56 p. (R.E. Townes)
Ss were 52 male and female students at North Carolina Central University. The variables measured for beginner swimmers were breath holding, prone glide, arm stroke and crawl stroke, and advanced beginner swimmers, treading water, front crawl, and back stroke. Ss were randomly divided into two equal groups: the exp group engaged in 6 wks of circuit training and swimming, while the control group engaged in 6 wks of swimming only. Experimental Ss circuit trained on a 10 station universal gym, 3 days/wk, 30 min per day, completing the entire circuit twice each training session. They swam for the remaining 20 min of the class period concentrating on the pre-test skills. It was found that circuit training had a significant effect on the performance skills of the experimental beginner swimmers based on the Red Cross Progressive swimming test for beginner swimmers, but there was no sig diff between the exp and control advanced beginner swimmers.

95. WILSON, Frederick Hugh, Jr. A recreation curriculum for the North Carolina Community College system, 1979, 82 p. (T.A. Manly)

One of the most controversial issues concerning professional preparation at 2 yr institutions has been the emphasis that should be placed on terminal vs transfer programs. Those favoring the transfer programs consider a general education program emphasis more valuable since the student may seek additional education beyond 2 yrs by transferring credits. A subsequent philosophy supports a combination of the terminal and transfer approaches into a single program. It was concluded that recreation curricula at the two year college level should provide a broad general theoretical orientation while also providing preparation for those students who will transfer to other institutions.

NORTHEAST MISSOURI STATE UNIVERSITY (L. Boleach)
KIRKSVILLE, MISSOURI

96. ENGLISH, Susan E. Effect of Hatha yoga postures on shoulder, hip, trunk, and ankle flexibility. M.A. in Physical Education, 1979, 65 p. (L. Boleach)

29 exp Ss were enrolled in a Hatha Yoga class. 18 control Ss were members of a PE concepts class. Exp Ss were exposed to 2, 50 min sessions of Hatha Yoga postures for 6 wks. Paired and unpaired *t* tests were used to analyze the data. Pre-test comparisons revealed that the groups were not sig diff ($p>.05$) in any of the flexibility measures. Pre- and post-test comparisons indicated sig ($p<.05$) gains in flexibility for the exp Ss in all measures. The control Ss increased in flexibility ($<.05$) in dorsi and plantar flexion. Exp Ss demonstrated greater flexibility ($p<.05$) in post-test comparisons at all sites.

97. HARRIS, Barbara S. The effects of relaxation training on the stress levels of female athletes. M.A. in Physical Education, 1979, 108 p. (M.J. Murray)

29 female athletes from 3 spring, 1979, women's intercollegiate teams at NMSU volunteered as Ss. The 3 groups (control, autogenic training, and progressive relaxation) underwent 6 wks of training. Ss' state and competitive trait levels were determined through the study by: 1) digital skin temp; 2) Anxiety Self-Assessment; 3) State Anxiety Inventory (SAI), and 4) Sport Competition Anxiety Test (SCAT). No sig diff ($p>.05$) were found among the 3 groups' anxiety measures following training. Sig correlations ($p<.05$) were determined between several anxiety measurements but were restricted to assessments by the same instrument.

98. PETERSON, J. Toni. The prediction of basketball performance using psychomotor, cognitive, and anthropometric measures. M.A. in Physical Education, 1979, 65 p. (L. Boleach)

Female members ($N=43$) of the top 4 teams in the 1979 Missouri Small College Basketball Tournament served as Ss. The contributions of GPA, anaerobic leg power, 15 yd dash, 30 yd dash, total body RT, TRT, ht, and wt to basketball performance were determined. Basketball performance was determined by a specially designed formula by H.K. Kay. Ht ($r=.388$) was the only sig ($p<.05$) predictor. The 15 yd dash, total body RT, and power were next. The R for the 4 top variables was .56 ($p<.01$).

99. HAMPTON, Bobbi Kay. The relationship between bilateral, unilateral, and contralateral hand and foot reaction time and movement times of male and female athletes and nonathletes. M.A. in Physical Education, 1979, 59 p. (J.L. Mayhew)

60 Ss were assigned to appropriate male and female athlete and nonathlete groupings for testing. RT, MT, and TRT responses to a visual stimulus were recorded over 6 trials for both hands and both feet. Limb test sequences were randomly assigned. 3-way ANOVA revealed that males were faster ($p<.05$) than females on RT, MT, and TRT. Athletes were faster ($p<.05$) than nonathletes in MT and TRT. Although hand MT was faster ($p<.05$) than foot MT, there was no diff ($p>.05$) among limb RT's. It appears that RT is a fundamental biological phenomenon not altered by training. MT, however, may be sig altered by athletic training.

NORTHEASTERN UNIVERSITY
BOSTON-BOUVÉ COLLEGE, BOSTON, MASSACHUSETTS

100. CARNEY, Mary Eleanore and WILSON, Dale Temple. Establishing a comprehensive employment resource file in the field of recreation/leisure studies. M.S. in Recreation and Leisure Studies, 1979, 95 p. (F. Heuston)

101. DAVIDSON, Margie Myers. Selected youthful offenders and their leisure time behavior and skills. M.S. in Recreation and Leisure Studies, 1979, 45 p. (F.M. Robinson)

102. FOLEY, Elaine D. The effect of the "productive thinking program" on levels of motor creativity, verbal creativity, and figural creativity. M.S. in Physical Education, 1979, 102 p. (E. Fotsch)

103. FOSTER, Jane S. Employee perception leisure needs being met in selected industrial recreation settings. M.S. in Recreation and Leisure Studies, 1979, 65 p. (R.J. Graham)

104. RADLEY, Judith Schoonover. Needs satisfaction as a basis for structuring leisure activity. M.S. in Recreation and Leisure Studies, 1979, 52 p. (R.B. Morrison)

105. REIM, Linda Lee. The effect of aerobic dance on selected fitness items. M.S. in Physical Education, 1979, 52 p. (K. Luttgens)

106. ROTELLA, Joseph A. Jr. Barrier free playground design. M.S. in Recreation and Leisure Studies, 1979, 66 p. (F.M. Robinson, Jr.)

107. SCHADE, Estelle C. An investigation of the effects of a community awareness program upon the social maturation level of mentally retarded adults. M.S. in Recreation and Leisure Studies, 1979, 45 p. (A.E. Sayed)

108. TROUP, Nancy F. Attitudes of high school female athletes toward a male coach in selected sports. M.S. in Physical Education, 1979, 59 p. (R.S. Curtin)

109. WALTMAN, Frances A. Relationship of professional preparation in physical education of male coaches to their attitudes concerning girls' interscholastic athletics. M.S. in Physical Education, 1979, 55 p. (M.A. Lintner)

110. WILLIAMS, Nancy Katherine. The development of a book for pre-school children on therapeutic recreation for the physically handicapped. M.S. in Recreation and Leisure Studies, 1979, 53 p. (F.M. Robinson, Jr.)

OKLAHOMA STATE UNIVERSITY (A.B. Harrison)
STILLWATER, OKLAHOMA

111. DAYLAN, Hayrettin. *The effect of interval training on oxygen debt*. M.S. in Physical Education, 1979, 54 p. (A.B. Harrison)

11 OSU varsity track men volunteered for testing at the beginning and end of a 20 wk pre-season interval training program. O_2 debt was measured by the open circuit method during a 30 min recovery period following an all-out treadmill run. A t test for $\bar{X}$ O_2 debt change from 9.49L to 10.09L was not significant $(p > .05)$

112. DOWD, Karen J. *A comparison of self-concept in athletic scholarship female intercollegiate athletes and non-athletic scholarship women intercollegiate athletes*. Ed.D. in Higher Education, 1979, 75 p. (B. Abercrombie)

The Tennessee SCS was used to measure self-concept and sub-scale scores on 153 female intercollegiate sports participants in 9 Oklahoma colleges. 57 of the Ss received some form of financial aid. t tests revealed no sig. diff in self-concept or sub-scales between scholarship and non-scholarship groups, type of sport groups, starter-non-starter groups or college year classification groups.

113. DUMAS, Peggy, A. *Developing standards of skill proficiency in selected team sports for Oral Roberts University's health, physical education and recreation majors*.

Team sport skill tests were selected from the literature and administered to 688 Oral Roberts University undergraduate students including 64 male and 56 female HPER majors. The sports tested were basketball, field hockey, football, soccer, softball and volleyball. Comparisons were made utilizing t tests between males and females, and majors and non-majors on all test items. A regression equation was developed for each sport. The predicted scores were converted to Z scores and, finally, % rankings. It was determined that ORU HPER majors should score at least 74% in each sport to be considered proficient.

114. KROB, J.J. *A demographic profile of Kansas secondary physical education instructors with implications for counseling*, Ed.D. in Higher Education, 1979, 70 p. (J. Bayless)

Data were collected by questionnaire from 384 randomly selected secondary school physical educators in Kansas. Stratification was by sex and school size. Return rate was 92.3%. A profile of the typical Kansas secondary PE instructor was constructed and implications for counseling future and present instructors were drawn. It was found that in 1978, there were 95 first year instructors of PE hired in Kansas public high schools out of 447 PE majors that graduated from Kansas Colleges and Universities.

115. WENDT, Deborah. Jumping rope as a means of improving cardiovascular endurance in teen age girls. M.S. in Physical Education. 1979, 35 p. (A.B. Harrison)
Ss were 107 female students at Hiawatha H.S., Kirkland, Illinois in the 7th, 8th, 9th and 10th grades. Ss in the 7th and 9th grade were randomly assigned to the exp. group while 8th and 10th graders became the control group. All Ss participated in similar PE class activities during the 12 week study. The exp Ss participated in 5-10 min of rope jumping at the beginning of each class period. All classes met 3 times per wk. All Ss completed a 12 min run at the beginning and end of the study as a test of cardiovascular endurance. ANCOVA revealed no sig diff between groups ($p > .05$).

PENNSYLVANIA STATE UNIVERSITY, (K.G. Stoedefalke)
UNIVERSITY PARK, PENNSYLVANIA

116. BARTON, B. The effects of an aerobic dance program on the self-concept and the development of physical fitness in educable mentally retarded children. M.S. in Physical Education, 1979, 103 p. (H.M. Lundegren)
A pilot study was conducted prior to the experimental program to establish procedures for the aerobic dance program. Ss were 21 educable mentally retarded (EMR) children, 13 males and 8 females aged 9-16 yrs, from the special education classrooms in the Bald Eagle Elementary School, Wingate, PA. Each child participated in an 8/wk aerobic dance program. Ss were pre- and post-tested using the following instruments: a modified version of the AAHPER Special Fitness Test for Mentally Retarded and Fisher's Self-Concept Picture Test. Scores were analyzed using a dependent t-test for within-group comparisons on subtest scores for each individual on the fitness tests, and the Wilcoxon matched-pairs signed-tasks test was utilized for within-group comparisons for each S on the self-concept test. The results were: Ss demonstrated sig increases in their physical fitness as indicated by the subtest scores on the modified AAHPER Special Fitness Test for Mentally Retarded; and Ss gained a more positive self-concept as indicated by scores on Fisher's Self-Concept Picture Test. It was concluded that

participation in a planned, systematic, and progressive aerobic dance program including physical fitness activities enhances the self-concept and physical fitness of EMR children.

117. BEGLY, G.C. A self-report measure to assess flow in physical activity. M.S. in Physical Education, 1979, 93 p. (D.V. Harris)

Flow was defined as an intrinsically motivated experience characterized by a merging of action and awareness, increased kinesthesis, control of mind and body, and clear feedback. Investigations of flow in physical activity have been hampered by a lack of efficient instrumentation. In response to this need, a self-report measure (the Activity Experience Questionnaire) was devised. 14 dimensions of flow were identified. 3 statements were written for each dimension, using a Likert format. Participants in 7 physical activities served as Ss (N=100). Factor and item analyses were used to revise the instrument. 23 statements were selected for the revised questionnaire. The reliability coefficients of internal consistency ranged from .19 to .91. The 23 items accounted for 52.83% of the total variance. Validity was ascertained by correlating scores from the items selected for the revised questionnaire with scores on an elements-of-flow interview. A correlation of .73 was determined. Test-retest reliability was .82. The results indicated that the instrument offers promise as a self-report measure to assess flow.

118. BIDDLE, Stuart, J.H. The effects of belief on the performance of a maximum weightlifting task. M.S. in Physical Education, 1979, 98 p. (D.V. Harris)

The strength of cognitive intervention factors, in the form of beliefs, was investigated in relation to the performance of a maximum, single-repetition decline press on the "Nautilus" apparatus. Ss were assigned to one of 4 groups for the experimental treatment trial, having completed two baseline testing sessions. Group 1 ("aware" condition) was given correct feedback about the weight to be attempted; group 2 ("unaware") was given no feedback at all; group 3 ("light") attempted a weight which was 5% less than they were led to believe; group 4 ("heavy") attempted a weight which was 5% more than they were led to believe. To disguise the true nature of the study, a cognitive distraction task, in the form of a laser optometer, was used. The dependent variable was the % difference score between maximum baseline and the experimental treatment performance. A one-way ANOVA produced no sig diff between the 4 group means ($p > .05$). Questionnaire items from the PSI for Sports and a specially devised Weight Training Confidence Scale showed no sig correlations for confidence, concentration, arousal, and mental rehearsal, with performance ($p > .05$).

119. BOWLEY, C.S. Motives, management preferences, and perceptions of crowding of backcountry hiking trail users in the Allegheny National Forest of Pennsylvania. M.S. in Recreation and Parks, 1979, 204 p. (R.C. Knopf)
To assist recreation resource managers determine the recreational carrying capacity of the backcountry hiking trail system, questionnaires were administered between May 28 and September 5, 1977 to a representative sample of users (N=485) to identify their demographic characteristics, motives or reasons for hiking, perceptions of crowding, level of satisfaction, perceived impact of environmental hiking and camping practices, and preferences toward different trail management actions and approaches for controlling use levels. Completed questionnaires (N=406) were analyzed to obtain frequency distributions for each question and then S's t and X^2 tests were computed to test for statistically sig diff between day and overnight users and between first-time and repeat users. Factor analysis was utilized in the construction of motive scales and the cluster analysis was used to segregate overnight users into homogenous subgroups based on their motive profiles. Generally, users were young, resided in urban areas, spent 1 to 3 days on their hiking trip, which usually occurred on a weekend, went hiking to experience nature and for stress release/solitude, and were completely satisfied with their trip. It was concluded that there is great diversity in users' motives, management preferences, and perceptions of crowding.

120. BRAWLEY, L.R. Children's causal attributions in a competitive sport: a motivational interpretation. Ph.D. in Physical Education, 1980, 180p (D.M. Landers)
Causal attributions made following the outcomes of achievement events have been explained by either motivational or nonmotivational processes. This field research in sport psychology manipulated variables known to mediate attribution responses and tested the self-serving biases (motivational) model and Weiner's information-processing (nonmotivational) model in examining attributions for the team and the self, following a competitive ice hockey game. Selection of teams was based on past hockey performance in order to examine the effect of consistent

performance and expectancy information on attributions. The variables of privacy (anonymity) and reward were manipulated following the game to study their influence. Ss were 9- to 12-yr-old boys (N=546) representing 55 teams which either won or lost all of their last 3 games. Ss attributed the importance of ability, effort, task difficulty, and luck in causing the game outcome. These 4 dependent variables were considered within a past history by present outcome by anonymity by reward (2 x2 x 2 x 2) design. Results of MANOVA for the team and for the self supported the self-serving biases model. Present game outcome, not past hockey performance, determined the pattern of attributions. The finding that all attributions for winning teams were sig more important than those for losing teams agrees with previous research concerning the favorable attitudes of groups towards their own products. It was concluded that the boys' ascriptions were most effectively explained by motivational processes.

121. BREEN, J.O. Natural resource requirements for selected day-use recreational downhill snow skiing sites: an analysis of selected Pennsylvania ski areas. M.S, in Recreation and Parks, 1979, 170 p. (H.M. Lundegren)
The effects of the natural resource base of Black Moshannon State Park, Blue Knob Recreation, Inc., and Denton Hill State Park on the activity of recreational downhill snow skiing were investigated. A questionnaire, designed to identify the managerial objectives, development norms, and administrative policies of each ski area, was administered to each ski area manager, and the information derived was detailed in the general activity analysis which was developed for the activity. The activity analysis, containing information related to the activity, the participants, the resource and the facility, support services, and support facilities, was utilized to aid in the review of resource descriptors to determine the relevancy of each descriptor to the activity. This process led to the establishment of a list of relevant resource descriptors specific to each ski area under study, which were then ranked according to their importance to the activity at each ski area. Quantifiable criteria were identified or developed for each relevant resource descriptor, which led to the creation of an optimum resource requirements instrument. By comparing the inventoried data to the optimum conditions specified within the instrument, the suitability of each resource base which had been developed for the activity was evaluated. Ski areas were then rated as

being suitable, unsuitable, or conditional for the activity to take place.

122. BROGAN, R.K. The effects of a contingency managed reinforcement program on the attending behavior and motor performance of educable mentally retarded children. M.S. in Physical Education, 1979, 72 p. (H.M. Lundegren)
40 educable mentally retarded (EMR) boys and girls with a chronological age (CA) range of 10-17 years and an intelligence quotient (IQ) range of 50-80 were randomly assigned to control and experimental groups. The control group received a motor-component instructional program designed to develop basic motor skills necessary for performance of the soccer instep kick. Ss in the exp group participated in the same type of program but were given reinforcement (tokens and praise) for correct demonstration of components. Motor performance was considered as scores in the Soccer Instep Kick for Accuracy Test. Attending behavior was assumed to be represented by the no. of motor components correctly demonstrated within each group. An independent t-test was used to measure differences between groups in kicking performances. A dependent t-test was used to measure differences in mean kicking performances within groups. Results indicated that a sig diff ($p<.05$) had occurred from pre- to post-test kicking performance in the exp group, but not in the control group. There was also a sig diff in the amount of improvement in kicking performances between groups, favoring the exp group. The exp group demonstrated a greater % of attending behaviors than the control group during the study. It was concluded that the reinforcement program was probably a factor in causing improvement in motor performance and attending behavior.

123. BROWN, L.R. A comparative study of outdoor recreation participation and attitude between users of federal outdoor recreation areas and the general public. M.S. in Recreation and Parks, 1979, 259 p. (G.G. Godbey)
A sample of people utilizing federal outdoor recreation areas and a sample representative of the general public were compared on 7 socioeconomic characteristics - age, race, gender, residence, occupation, education, and income-within 4 levels of outdoor recreation participation (annual, more than 4 times per year, just started, and desired) in 27 outdoor recreation activities. Attitude of importance for outdoor recreation was also analyzed with the same socioeconomic variables. Data collection was conducted by the Heritage Conservation and

Recreation Service, USDI, for the 1979 Nationwide Outdoor Recreation Plan. The users' sample consisted of 11,549 personal interviews taken on-site at federally managed outdoor recreation areas. Ss comprising the general public ($N=4029$) were obtained through nationwide telephone interviews. ANOVA showed that users' socioeconomic influences on participation differed from the general public's in analyses of annual and frequent activity participation, but the 2 samples remained similar for desired and initial participation. The sample interviewed on-site at federal recreation areas also considered outdoor recreation more important than the general public and illustrated interactions with all socioeconomic variables with the exception of residence. It was concluded that users represented a subset of the general public in terms of socioeconomic influences on outdoor recreation activity participation.

124. BROWN, P. *Significant others and self-concepts of children with chronic kidney disease attending a summer resident camp*. Ph.D. in Physical Education, 1979, 82 p. (K.G. Stoedefalke)

The effects of a 2 wk summer resident-camp program on self-concept levels of hemodialysis children relative to nondialysis children were assessed, sig others influencing self-concept and period in the life cycle of their greatest effect were identified, and the extent of their influence was measured. A pilot study was conducted with 24 male and female dialysis children ($\bar{X}=14.5$ yrs), and 100 nondialysis males and females ($\bar{X}=11.4$ yrs). A follow-up study consisted of 31 male and female dialysis and 62 male and female nondialysis children ($\bar{X}=13.9$ and 11.4 yrs, respectively). The Piers-Harris Children's Self-Concept Scale was employed in a pretest-posttest design to measure self-concept levels of Ss shortly after arrival and before departure from camp. Ss in the follow-up study repeated the posttest to measure their perceived self-concept rating of the person they liked most in camp. A short questionnaire and series of questions were additionally completed by these children to determine if the most-liked person was also a sig other. Differences between pretest and posttest $\bar{X}$ self-concept scores of the two groups were compared using *t*-tests. Descriptive statistics were employed to compare differences between the groups regarding identification of sig others and life-cycle period of greatest effect. *r* was determined between posttest self-concept and perceived self-concept scores. The findings suggest that treatment settings that allow regular schooling and recreational programs such as described in this study, which integrate dialysis children with normal peers, may have beneficial effects on psychological growth and long-term rehabilitation.

125. BURDETT, R.G. Biomechanical model of the ankle joint.
Ph.D. in Physical Education, 1979, 204 p. (R.C. Nelson)
A 3-dimensional biomechanical model of the ankle was developed and then used to determine the muscle and joint forces which occur at the ankle during the stance phase of running. The passive moments and forces were also determined. The forces predicted by this 3-dimensional model and a similar 2-dimensional model were compared, and the effects of changes in some of the major assumptions of the 3-dimensional model were examined. The passive internal moments exerted on the ankle by the stretching of tissues were exp determined for different ankle angles from a group of 7 Ss. A series of cubic equations was derived from these data relating joint angles to passive ankle moments. These curves were used to estimate joint forces which occurred due to passive stretch. Ankle joint and muscle forces of 3 Ss running at a 6-min-mile pace were then calculated. A 2-dimensional model based on these data was used to predict muscle and joint forces for one of the subjects which were slightly lower than those predicted by the 3-dimensional model. Some major assumptions in the original model were modified to determine the effect of each on the forces predicted by the model. The grouping of muscles into functional groups and the method of distributing force among the individual muscles of each group made little difference in the predicted joint forces. However, variations in relative body dimensions among Ss and variations in the assumed position of the center of the joint forces were found to affect the joint forces predicted by this model to a great extent.

126. CALAMIDAS, E.G. The significance of sexual preference as a variable in patient satisfaction with medical care.
M.S. in Physical Education (Health Education), 1980, 66 p.
(R.E. Shute)
This study determined the sig of sexual preference as a variable in patient satisfaction with medical care for sexually and non-sexually related concerns; compared the overall satisfaction that was perceived by the Ss, regardless of sexual preference, for treatment of non-sexually and sexually related concerns; and assessed the responses given by heterosexual and homosexuals to statements concerning the treatment they received to determine if there was a diff in the way each group perceived the physician's attitude. A 38-item questionnaire

was developed to determine demographic information, aspects of the doctor-patient relationship, and the Ss' overall satisfaction with the medical treatment. The instrument was distributed to volunteers in the Homophiles of Penn State organization and health education classes at the University. Positive satisfaction was reported by 67.1% of the heterosexuals and 65.2% of the homosexuals who received treatment for non-sexually related concern; and by 76.5% of the heterosexuals and 60.0% of the homosexuals who received treatment for a sexually related concern. Of all the Ss treated for a non-sexually related concern, 67.7% reported feeling satisfied with treatment, while positive satisfaction was reported by 71.4% of those treated for a sexually related concern. An individual item analysis revealed that few sig diff existed in the way in which heterosexuals and homosexuals perceived the physician's attitude.

127. CALDER, J.E. Service delivery patterns of activity programs within selected institutions for the mentally retarded in the US and UK. Ph.D. in Physical Education, 1979, 204 p. (H.M. Lundegren)

6 large government institutions for mentally retarded (MR) people were selected according to set criteria, 3 in the US and 3 in the UK. A wk was spent at each institution for on-site visits. A conceptual framework was developed based on systems theory and interorganization theory, and a second framework was developed for classification of professional groups. 4 research questions were posed. A structured interview was developed for technical-level staff. Data from all 6 institutions showed similar patterns of involvement in 3 program types: free-time, structured recreation, and activity therapy. A wide range of professional groups were shown to be involved in activity programs in both countries, but there were more types and greater nos. of staff employed in the institutions in the US than in the UK. The difference in government structure of services relevant to residential provision for MR people was shown to determine the basic organization framework for each institution within a country. Within this framework, however, there were differences between institutions. Elements relevant to the problem which were considered to be universal and those considered to be country- or institution-specific were isolated. It was concluded that the fundamental nature of recreation in both countries is recognized at all levels, and as such is seen to be an important aspect of programming for MR. It was further concluded that recreation services, whether free-time or structured, are different in kind to those of activity therapy.

Although this difference is recognized, there is a lack of understanding as to the implications of the difference.

128. CHEMSAK, M.A. Educational effectiveness of interpretive displays at two nature centers. M.S. in Recreation and Parks, 1979, 212 p. (B. van der Smissen)
The effectiveness of displays in educating visitors at the Mary Parsons (N=423) and Hidden Oaks (N=306) Nature Centers was assessed separately for each center by a knowledge test based on the concepts of the displays in the particular center. Center visitors were divided into 3 groups to control for pre-test influence. One group took both the pre- and post-tests, another took only the pre-test, and a third took only the post-test. The t-test was used to determine the sig of diff between the pre- and post-test mean scores for the visitors as a whole and for the subgroups as obtained by the visitor profile. The exhibits were examined for factors contributing to their effectiveness. It was found that visitors who took the pre-test learned sig more than those who did not. In comparing the visitors who took only the pre-test with those who took only the post-test, a sig increase in knowledge occurred for the visitors as a whole at Mary Parsons, but not at Hidden Oaks. The most important factor contributing to display effectiveness was directing the visitors' attentive behavior. The most effective displays were 3-D displays, those containing live animals, those which could be manipulated by the visitors, and those in which the concepts to be learned were actually stated in the exhibit text.

129. CUOMO, H. An investigation of the cardiovascular responses of borderline hypertensives and normotensives during various isometric tasks at two levels of exertion. M.S. in Physical Education, 1980, 130 p. (K.G. Stoedefalke)
The study compared the cardiovascular (CV) responses of borderline hypertensive and normotensive Ss during 3 isometric tasks at 2 levels of exertion: 10% and 30% max voluntary contraction (MVC). The CV responses investigated included systolic BP, diastolic BP, HR, X arterial pressure, and rate-pressure product. 12 male Ss, 6 borderline hypertensive (BP≥140/90<160/95) and 6 normotensive (BP<140/90), performed a randomly designed series of tasks: in Task 1, S was positioned as if holding a briefcase; in Task 2, S held a weight in front of the trunk with forearm extended 100° from the humerus and in Task 3, S pushed against a fixed resistance with arm at shoulder height

and forearm extended 140° from the humerus. In each task, S was asked to maintain the isometric exercise for 5 min. Task 3, at 30% MVC, however, could only be held for 3 min by a majority of Ss; therefore, statistical analysis was limited to measurements taken at rest and at the end of 3 min of contraction while analysis was performed on measurements taken at rest and at the end of 5 min of contraction for all 3 tasks at 10% MVC and for Task 1 and 2 at 30% MVC. The borderline hypertensive Ss demonstrated sig higher resting values than the normotensive Ss in each CV measure investigated. Calculated F ratios indicated that the absolute change in the remaining CV measures at 30% MVC and in all the measures at 10% MVC, was not sig diff between the 2 groups. Examining the 3 tasks at 10% MVC, it was shown that BP and HR rose slightly, then plateaued; however, the borderline hypertensive group reached a steady state later than the normotensive group. During the contractions held at 30% MVC, the increase in BP and HR was progressive throughout the exercise.

130. DEBICH, J. G. The effects of weight training on the acquisition of strength of mainstreamed educable mentally retarded adolescent males. M.S. in Physical Education, 1979, 59 p. (H.M. Lundegren)

A 3-set, 6-repetition circuit program was administered to mainstreamed educable mentally retarded (MR) Ss (N=18), half of whom were mainstreamed with normal Ss (N=[illegible] and the other half of whom were segregated. The program consisted of bench press, sit-ups, leg press, lat pull, leg curl, and military press. Ss were volunteers from a special education class at Butte SHS, Butte, MT. Independent t-tests on strength scores indicated that there were no sig diff between the mainstreamed and the segregated groups before or after the experimental period. The results failed to support the investigator's original hypothesis. Within-group comparisons, utilizing a dependent t-test, showed that both groups sig increased their total strength, which was in agreement with the hypothesis that a circuit weight-training program increased the strength of MR adolescent males. Test-retest reliability, computed on strength scores, was found to be .99 for each group.

131. DEILY, J. J. The use of affective touch in recreational activities and its effect upon behavior of a group of nursing home residents. M.S. in Recreation and Parks, 1979, 96 p. (H.M. Lundegren)

Data-gathering took place at a 175-bed nursing home in central PA, with 9 females and 5 males as Ss. The Parachek Geriatric Rating Scale was used as a screening device on a randomly chosen sample to provide a selected population which was designated as moderately impaired. The Nurses' Observation Scale for Inpatient Evaluation was used to rate participants at onset, midpoint, and termination of the study. Findings were that no sig diff was noted in behavior as defined by social competence, social interest, and neatness improvement, or decrease in irritability, psychosis, and retardation, although there were trends in the hypothesized directions; and there was no diff in the behavioral rating scores of Ss in an activity group receiving affective touch in comparison with a control group.

132. DENMAN, Linda A. The effects of extrinsic rewards on the intrinsic interest of children involved in a motor activity. M.S. in Physical Education, 1979, 76 p. (D.M. Landers)

The purpose of this study was to investigate the effects of rewarding stars for performance in a throwing task on several measurements of intrinsic interest in children for each of the following conditions: contingent-reward, noncontingent-reward, and no-reward (control) groups. The Ss in this study were 33 boys ranging in age from 7-9 yrs. Each S was tested once a wk for a period of 5 wks. The performance task consisted of throwing velcro balls at a target from a distance of 12 ft. Scores ranged from 0 to 4 points. With the exception of the last session, Ss were awarded stars for their performance according to their treatment condition. A 1-way ANOVA was conducted on the following dependent variables: total score, no. of throws, no. of center hits, composite score, and 10 questions assessing intrinsic interest in the task. The results failed to find support for an undermining effect of rewards on performance and the self-report measure of intrinsic interest. The findings not only contradict the predictions of the "overjustification hypothesis," but also suggest that rewards may enhance certain aspects of performance.

133. EDDY, J.M. The development and validation of a knowledge test of death and dying for college students. D.Ed. in Physical Education (Health Education), 1979, 103 p. (E.E. Hunt, Jr.)

The initial phase of this study was to define the contents of a death-and-dying (D/D) course, delineated by reviewing related literature, examining death-and-dying/death education course syllabi from 6 colleges and universities, and developing and administering the D/D content questionnaire. The results of these procedures yielded 30 broad D/D content areas which served as the basis of the Knowledge Test of Death and Dying. The second phase consisted of preparing test items (90). In the third phase, reliability, item difficulty, and discriminating data were gathered on the 90-item test from undergraduate students at PSU. The fourth phase was to determine content validity. 13 professionals actively involved in teaching D/D or death education courses were asked to rank each item on a Likert Scale. The results from phases 3 and 4 led to phase 5, in which poor test items were deleted, and retaining 62 items. In phase 6, items were revised as suggested by the panel. The 7th phase gathered reliability data on the instrument, first through a measure of internal-consistency reliability (.742), and second, through a measure of test-retest reliability (.755), obtained from PSU HE students. Phase 8 consisted of field testing the instrument in three death-and-dying/death education classes. A dependent t test and a Pearson r were calculated for each group. A sig increase ($p < .001$) in knowledge between treatments and a high positive r between test groups were found for all 3 groups. It was concluded that the Knowledge Test of D/D is a valid instrument which can be used in death-and-dying/death education courses across a variety of academic disciplines.

134. EICKELBERG, W. The effects of a remediation program on multiply handicapped children with visual figure-ground problems. M.S. in Physical Education, 1979, 92 p. H.M. Lundegren)

The study lasted for 13 school wks, from January to May, 1978. The Ss were 25 students at the Anna C. Scott Elementary School, Leonia, NJ, all classified as multiply handicapped. The treatment group (N=15; 11 males, ages 5-12; 4 females, ages 7-13) and the PE group (N=10; 6 males, ages 5-8; 4 females, ages 5-9) participated in all regular school functions, including the regular gym program. The treatment group, in addition to the regular program, participated in a visual figure-ground remediation program for 30 min in the gym and once a day for 15 min in the classroom. The Children's Embedded-Figures Test (CEFT) was used to determine success of the program. Between-group analysis at the end of the study indicated a sig diff ($p < .05$) in CEFT scores between the treatment and PE groups; for ages 5-9; and for males. No sig diff were found for females. Within-group comparisons of the pre- and post-CEFT scores for the treatment group indicated that there were sig ($p < .05$)

improvements in CEFT scores for the total group; for ages 6-9 and ages 10-15; and for males. No sig improvements were found for the PE group on CEFT scores.

135. FOLEY, P.J. The effects of participation in a mainstreamed group on the swimming achievement of handicapped children, using a competency-based, instructional aquatic program. M.S. in Recreation and Parks, 1979, 55 p. (H.M. Lundegren)
The "I CAN" aquatic module (Wessel, 1976) was administered to randomized groups to determine the effects of participation in a normalized group on the swimming achievement of handicapped children, using a competency-based, instructional aquatic program. The "I CAN" aquatic module was used to measure both groups--control and experimental--with respect to their swimming achievement. Data were gathered, using 20 Ss in the control group and 18 Ss in the exp group from Happy Days Camp in Hamilton Township, NJ. The results indicated no sig diff for swimming-skill achievement between the exp and control groups, either at the beginning of or following the 5-wk aquatic program. Thus, the hypothesis that there would be a sig diff in swimming-skill achievement for the exp group following the conclusion of the program was not supported. All children in the study achieved greater than 68% of the skills presented in a lesson; and, in 6 or more of the 10 lessons, achievement was 80% or greater. 70% of the children felt secure in the deep water under supervision.

136. GOLDEN, A.F. A history of badminton in North America and among selected world cultures. M.S. in Physical Education, 1980, 85 p. (J.A. Lucas)
The game of battledore and shuttlecock was examined through the cultures and peoples of China and Japan, North America, and Western Europe, especially France and England. In each locale, historical dates, archaeological evidence, and geographical sources were researched in order to provide authenticity to the game's origin and historical value. The involvement of the specific culture in relation to badminton's development as a pastime was discussed. A historical and anthropological method of investigation was used to gather information from museums and other available sources within the US and Canada, with supplementary overseas mailings. From an anthropological perspective, the theory of diffusion, distribution of traits, and multiple inventions of the implements and the game provided alternative methods of implement design and game organization.

The study concluded that no single culture could claim sole credit for the game's origin. Simultaneous inventions were probable as the game's implements were very simple to create. Findings in this study cover the following areas: the expressive life and how it influenced the operation of a society; competition vs amusement directly connected with this pastime; sig of the game for boys and girls; the cultural and diffusion patterns of the game throughout the various societies added to the development of battledore and shuttlecock; the contribution of the North and South American Indians; and the importance of ceremony, social expectations, and the pattern of badminton as an innocent amusement in contributing to badminton's portrayal as a recreational pastime among the selected cultures of this study.

137. HARRINGTON, M.S. Factors associated with withdrawal from leisure activities by aging blacks in Washington, D.C. M.S. in Recreation and Parks, 1980, 83 p. (G.C. Godbey)
A questionnaire was submitted to determine past activity involvement, motivation for withdrawal from participation in the activity where the individual had previously indicated that participation had ceased, and the reasons associated with withdrawal from the indicated activity. Data obtained from 103 elderly members of Antioch Baptist Church of Deanwood, Washington, D.C, suggest that the reasons contributing to withdrawal from leisure activity are: yearly income from all sources; present health status; time; retirement; marital status; environment; change in life style; and withdrawal from activity, or activity ending.

138. HAZAKI, Y. Jigoro Kano and the development of Japanese physical education and sports. M.S. in Physical Education, 1979, 83 p. (J.A. Lucas)
On October 28, 1860, Jigoro Kano entered the University of Tokyo to study politics and philosophy. Soon after graduation from this prestigious university, he established the Kodo-kan and Ju-do by combining the best features of Ju-jutsu sects into his new system. This establishment is one of his better known accomplishments. Kodo-kan Ju-do gradually became accepted by Japanese people and Kano enthusiastically entered the education field. He was, in turn, Professor at the Peers' School, Principal of the Tokyo Higher Normal School, and an official of the Ministry of Education. Kano's leadership role dates from the initial stage of modern Japanese PE and sports. Thus, his contributions are significant enough to be regarded as pioneering

work. In order to improve the quality of PE teachers, Kano tried to reform the system of the Tokyo Higher Normal School, such as by expansion of school yrs. Further, Kano's enthusiastic efforts for Japanese participation in the Olympic Games, carried out through his prestigious posts as a member of the IOC and as President of the Japan Physical Education Association, are quite impressive. For these facts, Jigoro Kano is regarded as "the Father of Japanese Physical Education."

139. HIX, S. Figure-ground perception and performance of a gross motor task by exogenous brain-injured children. M.S. in Physical Education, 1979, 96 p. (H.M. Lundegren)
The purpose of this study was to measure figure-ground perception and determine if gross motor performance on a task that required separation of the visual field into figure and ground could be enhanced through systematic introduction of the ground stimuli within an area free of excess environmental stimuli. Ss were 11 exogenous brain-injured children identified according to criteria established by Strauss and Lehtinen. The Children's Embedded Figures Test (CEFT) and the Gross Motor Test of Figure Embeddedness (GMTFE) were used as instruments in this study. The GMTFE consisted of 5 footprints (the "figure") surrounded by overlapping horizontal, vertical, and diagonal ovals (the "ground"). Ss were asked to step on the GMTFE pattern, covering up as much of the criterion footprints in the test as they could. A performance score, which represented the % overlap between the 5 criterion footprints and the Ss attempts, and a time score, which represented the amount of time it took the S to complete the test, were combined to determine the GMTFE score. In addition to the GMTFE, 5 practice patterns were made, representing various stages of embeddedness and ranging in difficulty from a pattern of footprints with no ovals to a pattern with footprints and stippled ovals arranged horizontally, vertically, and diagonally. Results of the study showed that systematic introduction of the irrelevant stimuli enhanced gross motor performance of the exogenous brain-injured children on the locomotor task. In addition, performance levels remained the same after a 1-day program interval. No changes in perceptual mode, as measured by the CEFT, occurred as a result of the treatment.

140. HOUSLE, B. Exercise stress and central/peripheral signal detection: a test of the task priority vs positional hypotheses. M.S. in Physical Education, 1980, 67 p. (D.M. Landers)

This study examined the ability of exercising Ss to detect and identify cues in their visual field while varying field emphasis between central and peripheral. Ss (N=30) 18 yrs of age or older who were stress-tested were randomly assigned to 1 of 3 groups according to the type of response required for the stimuli presented: central identification and peripheral detection, central detection and peripheral identification, and peripheral detection and peripheral identification. The test consisted of 2 20 min test sessions riding a bicycle ergometer at 60% of max workload. While pedaling, Ss detected and identified cues presented across their visual field at 0°, 20°, 35°, 50°, 65°, and 80° left and right, and the field emphasis (central or peripheral) was varied from one session to the next. ANOVA showed diff ($p<.05$) for priority and location. Ss had shorter reaction-time latencies with a peripheral field priority. Latencies were greater at 20° and 35° regardless of priority. Identification accuracy was sig better with peripheral priority, and increased with eccentricity. It is suggested that a peripheral emphasis required a broadened range of anticipation, and thus a "widening" effect. The decrease at 20° and 35° was proposed to occur due to a changeover in viewing processes from simple to complex. However, the size of the cues may have confounded identification results.

141. JANOWSKI, D.A. Corporate sponsorship of sports events as a marketing strategy. M.S. in Physical Education, 1980, 122 p. (L.I. Magnusson)

The prominence of corporate involvement in sports, especially within the last 10 yrs, initiated this investigation of corporate objectives underlying the use of sports sponsorship as a marketing strategy. A questionnaire probing the rationale and monetary investment in sponsorship was sent to 100 corporations in the U.S. Corporate sponsors regarded sports sponsorship as an effective vehicle to promote corporate image, products, and services. Key objectives underlying the use of sponsorship as a marketing strategy included increasing corporate name awareness, increasing product/brand awareness, and promoting corporate image. Sports provided increased publicity and an opportunity, through image association, for sponsors to appeal to specific target markets. Sponsorship is a form of advertising and as such is incorporated into corporate marketing strategies.

142. LUBELL, E.G. Smoking awareness and practices of urban pre-school and first-grade children. M.S. in Physical Education (Health Education), 1979, 40 p. (R.E. Shute)
Urban pre-school and first-grade children (N=168) were interviewed to determine the extent of their awareness and practices related to cigarettes, pipes, and cigars. The major findings are summarized below. In this sample, over 25% of the children had tried smoking and, of those who had smoked, about 80% said they planned to smoke in the future. Further, approximately 50% of the children who had seen tobacco products in the home said they expected to smoke in the future. In contrast, only 11% of those children who were not exposed to smoking at home thought they would smoke in the future. It was clear that the children were very aware of the use and function of tobacco products and that their desire to smoke in the future was sig related to having tried smoking and/or having seen adults smoking at home. The results of this study agree with the work of other researchers who have investigated pre-adolescent smoking patterns and attitudes and support the introduction of smoking education in the early elementary school curriculum. Since most children are quite familiar with smoking, teachers should not be concerned about further arousing their curiosity and should feel free to openly discuss the pros and cons of tobacco use. Also, parents should be informed of the powerful modeling effect they may exert on their children's desire to smoke or not to smoke.

143. MONISMITH, S. W. An examination of the opinions of seventh to twelfth grade students regarding the perceived effectiveness of various components of both pro-smoking and anti-smoking messages. M.S. in Physical Education (Health Education), 1979, 83 p. (R.W. St. Pierre)
Volunteer Ss (N=3100) in 28 JHSs and SHSs throughout PA were administered a questionnaire to assess their opinions about pro- and anti-smoking messages. Survey results indicated that most teenagers were exposed to anti-smoking information and materials in schools. The materials were considered to be of good quality, and students understood the information which was presented. Anti-smoking messages were supportive in helping non-smokers maintain their abstinence, but only 1/3 of the smokers reported that anti-smoking messages influenced their choice to smoke or not. Sig diff existed between smokers and non-smokers in their receptivity to anti-smoking messages. Non-smokers found anti-smoking messages to be interesting and were encouraged to want to know more about smoking, while smokers

often found anti-smoking messages to be boring and useless. Promotional smoking advertisements did not appear to exert a direct influence on the adoption of smoking during adolescence. However, promotional advertisements were very effective in depicting smoking as enjoyable or pleasant, and reinforced teenage smokers' desire to smoke. Both teenage smokers and non-smokers found anti-smoking messages on television to be very effective in making people aware of the dangers of smoking, and over half of all Ss indicated that these messages make people want to stop smoking.

144. NEFF, R. A. *An assessment of faculty and administrator attitudes toward the role of intercollegiate athletics at The Pennsylvania State University*. M.S. in Physical Education, 1979, 100 p. (R.J. Sabock)
Administrators (N=100) and 900 faculty members were surveyed. Since their numbers are relatively small, all female administrators were included in the study, while the men were chosen by stratified random sampling. The survey instrument was devised by the investigator. Through interviews with administrators, 77 possible questions were assembled. Faculty and administrators then served as judges to determine the quality of the questions and selected 60. A pilot study further reduced this number to 37 questions. These were categorized by education, winning, equality, treatment, and administration. The total response to the survey was 56%. The computer program LIKRT was used for adjusted item total *r* values for each statement, a measure of reliability, and determination of the total and $\bar{X}$ attitude scores for each scale. Two computer programs (ANOVES and FOLUP) gave 1-way ANOVA and multiple comparisons. Independent *t*-tests (Tukey WSD) were also used. The conclusion was that faculty and administrators have favorable attitudes toward intercollegiate sport at PSU. The college of HPER was far more positive in their attitude toward intercollegiate athletics than any other college.

145. PETROSKI, M. *The development of a self-utilized workbook to aid in the modification of smoking behavior*. M.S. in Physical Education (Health Education), 1979, 121 p. (R.W. St. Pierre)
A workbook entitled *The Smokers Handbook to Quitting*, designed to aid individuals in smoking-cessation efforts, was developed and pilot-tested for effectiveness. The workbook incorporated self-control strategies and multiple treatment techniques. This approach was designed to complement ongoing "I-Quit"

smoking clinics for community volunteers. Verbal comments and written suggestions from 32 participants in 3 "I-Quit" clinics were used to structure and modify the workbook, which was pilot-tested with 16 Ss in a fourth "I-Quit" clinic. The pilot test was to determine differences in cessation and baseline reduction data between Ss in the 3 previous clinics and Ss in the fourth clinic who used the workbook. Data on baseline consumption, end-of-treatment, 3-mo and 9-mo reduction were obtained for all clinic participants. The clinic using the workbook exhibited the highest abstinence rates and reduction data both at end of treatment (75%) and at 9 mos as compared to the other clinics not using the workbook. Clinic participants did not use the workbook as a long-term maintenance tool.

146. PLESSER, L. A. *A survey of women's intercollegiate swimming and track coaches regarding the use of strength conditioning*. M.S. in Physical Education, 1980, 79 p. (R.J. Sabock)

This study examined opinions of women's intercollegiate swimming and track coaches toward using strength conditioning and also compared knowledge vs myths of coaches who use strength-conditioning equipment and those who do not. A questionnaire examining the physiological consequences of strength conditioning and myths associated with it was mailed to the 159 women's intercollegiate swimming coaches and the 119 women's intercollegiate track coaches listed in the 1979 AIAW *Handbook* as coaches of women's swimming and track in colleges and universities in MA, ME, CT, NH, VT, RI, NJ, NY, DE, MD, PA, VA, NC, SC, GA, FL, AL, and DC. The treatment of data included frequency analysis of all 42 questions, $\bar{X}$, SD and t scores calculated from scores on knowledge questions and a Likert scoring on attitudinal questions. As hypothesized: more than 50% of women's intercollegiate swimming and track coaches in this study employ strength-conditioning equipment in their athletes' programs; more than 50% of the Ss held positive opinions in relation to strength-conditioning equipment and its use; and there was a sig diff between the knowledge of users and non-users of strength-conditioning equipment.

147. POEHLMAN, E. T. *The effects of a three-part experimental physical education program on fitness levels of mentally retarded children*. M.S. in Physical Education, 1979, 78 p. (H.M. Lundegren)

The purpose of this study was to determine the effects of an experimental PE program which combined a job/walk activity, calisthenics and individual exercises, and New Games activities on the physical fitness of mentally retarded (MR) children. Ss were 20 (15 male, 5 female) from the special education classes in the Bellefonte Elementary School, Bellefonte, PA, and from The Community School, Tehran, Iran. Each S participated in an 8 wk exp PE program. Each S was pre- and post-tested, using a modified version (600-yd run/walk substituted for the 300-yd run/walk) of the AAHPER Special Fitness Test for the MR. Dependent t tests for within-group comparisons on sub-test scores and on the fitness independent t tests for comparisons between the two schools were used in the data analysis. Results showed sig increases in physical fitness, as indicated by the sub-test scores from the modified AAHPER Special Fitness Test for the MR. It was concluded that participation in a planned and systematic program of physical activities improves the physical fitness of educable MR children. There were sig diff in fitness scores between the children in Iran and the US, with the US children achieving higher scores in the 600-yd run/walk, the 50-yd dash, and the softball throw for distance.

148. PRICE, B. E. Attitudes of employees and management toward values of industrial recreation. M.S. in Recreation and Parks. 1979, 63 p. (P. Farrell)

In this study an industrial recreation values instrument was developed, piloted, and found to be reliable by the investigator. 20 value statements were used which represented values as revealed in the literature. A 5-point Likert-type scale provided each S an opportunity to designate a level of agreement with each value statement. 7 background variables were collected: age, sex, marital status, education, program participation, position in company, and company affiliation. Of the 283 Ss, 60% were employees and 40% management. All Ss were from 1 of 2 similar industries--Hughes Aircraft Company or McDonnell Douglass Corporation. Both groups of company personnel held a positive view toward the value of recreation. 5 of the 20 value statements carried sig diff between employees and management. Generally, management held a more positive attitude toward the value of recreation than did employees.

149. PYNE, A. L. The effects of an attention-demanding task on ratings of perceived exertion in adult men. M.S. in Physical Education, 1979, 80 p. (H.M. Lundegren)

20 males currently engaged in a physical activity program served as Ss on 2 days of submax treadmill testing at 50% and 80% of max HR. Ratings of perceived exertion (RPE) were made on a

Revised Rating of Perceived Exertion Scale. 3- digit subtraction was used as an attention-demanding task. Ss gave RPE for 5 min at 50% and 80% of the max HR both with and without mental arithmetic. The basic design of the study was a 2 x 2 repeated measures ANOVA with all 20 Ss receiving both treatments. Order of workload presentation was randomized with each S receiving 2 different treatments on 2 days. The effects of the attention-demanding task on RPE and the relationship between HR and RPE were determined. A high *r* was found between HR and RPE was found (*r* = .97) and this relationship remained high (*r* = .95) in the presence of an attention-demanding task. ANCOVA showed a sig diff in the intercept of the regression lines which was attributed to an effect of mental arithmetic on HR. RPE were higher at 80% of max than 50% of max and there was no sig diff in RPE at the same work loads with and without mental arithmetic. Results support the usability of RPE in adult men and these rating were stable in the presence of an attention-demanding task designed to be distracting. There are implications for utilization of perceived exertion in a practical exercise situation.

150. PYNE, C. L. *The energy cost of walking and running on a horizontal treadmill in women*. M.S. in Physical Education, 1979, 53 p. (K.G. Stoedefalke and J.L. Hodgson)
Energy cost of walking and running on a horizontal treadmill was measured in 10 active women with V_{O_2} = 55.0 $ml \cdot kg^{-1} \cdot min^{-1}$. Velocities of 4.8, 4.6, 8.1 and 8.9 km/hr walking and 6.4, 8.1, 9.7 and 11.13 running were studied. The reliability of the procedure for measuring energy expenditure as V_{O_2} $ml \cdot kg^{-1} \cdot min^{-1}$, was found to be within 1.53±1.03 ml for the 4 walking velocities and 1.68±1.43 ml for the 4 running velocities. A curvilinear relationship existed between energy expenditure and velocity for walking and a linear relationship existed for running. The regression lines interact at approximately 7.7 km/hr with a corresponding VO_2 of 27 $ml \cdot kg^{-1} \cdot min^{-1}$. An independent *t*-test showed no sig relationship between energy expenditure and relative stride length for the 4 velocities of walking and running, or between energy expenditures and stride rate for walking and running. The women selected a stride length/stride rate combination that suited their leg lengths. Increasing stride rates predominated with increasing velocities of walking and increasing stride lengths accompanied increasing velocities of running. Energy expenditures for unit body wt was lower for the women studied than was previously reported on

men of similar velocities of running. Walking energy expenditures were very similar to data reported on men.

151. RAEDER VOGEL, U. *The effect of birth order and maternal presence or absence on change in anxiety behavior*. M.Ed. in Physical Education, 1980, 69 p. (D.M. Landers)
Effect of birth order and the presence or absence of the mother on the initial introduction of the child to the water was investigated using boys and girls (N=23) 3-6 yrs old. The BRS was administered on the first and last day of class. During the 5 days of instruction, behaviors were observed. *t*-tests were conducted between first- and second-borns on the total fear and skill scores. A sig diff between first- and second-borns on skill was found $t(16) = 3.24$, $p < .005$. First-borns had higher skill ($\bar{X} = 54.94$) than second-borns ($\bar{X} = 40.36$). There was a sig diff between first- and second-borns on total fear, $t(16) = 3.20$, $p < .006$. First-borns had lower fear ($\bar{X} = 55.81$) than second-borns ($\bar{X} = 41.21$). A *t*-test was also conducted to examine the effect of mother presence or absence on total skill and fear; there were no sig diff found.

152. ROSS, J.W. *The effects of an 8-wk fitness trial conditioning program on the body image and fitness levels of overfat adolescent girls*. M.S. in Physical Education, 1979, 89 p. (H.M. Lundegren)
Triceps skinfold measures in excess of 22 mm for 12-yr-old girls and 23 mm for 13- and 14-yr-old girls were the criteria for determining an overfat condition (Mayer, 1968). The control group (N=7) did not participate in any activities outside their regular PE classes. The exp group (N=7) ran the fitness trial 3 days a wk after school in addition to their regular PE classes for 8 wks. Pre- and post-test assessments were made of body image, using the Body Cathexis Scale; cardiovascular fitness, using the 600-yd run/walk; and selected anthropometrics. The control group showed no sig positive change in any of the measures, but a sig negative change (larger measure) in waist girth. The exp group experienced sig gains in all measures except hip girth. However, only in the 600-yd run/walk and waist girth was the difference large enough to be sig greater than the control group. No sig relationship was found between body image and fitness, and body image and anthropometry.

153. RUETER, M.A. *The effect of running on individuals who are clinically depressed*. M.S. in Physical Education, 1979, 58 p. (D.V. Harris)

The effect of running paired with counseling therapy was compared to the effect of counseling therapy alone. Ss were 18 male and female, depressed, college-aged individuals. 2 groups of 9 Ss each were formed. One group ran 3 times/wk for 10 wks and also engaged in therapeutic counseling. The other group was involved only in therapeutic counseling. The results show that running, along with counseling therapy, produced greater decreases in depression than counseling therapy alone. Running is discussed as a viable treatment for depression.

154. SHIPP, D.H. Evaluation of selected management tools for ameliorating intensity of use for canoeists on the Delaware River. M.S. in Recreation and Parks, 1979, 93 p. (H.M. Lundegren)

5 evaluative criteria (discrimination, suboptimization, effect upon experience and attitude, cost, and effectiveness) were used to assess the 10 management tools (rationing through advanced reservations; rationing by queuing; rationing by lottery; rationing by price; rationing by merit; permits; designated camping; redirecting to other areas; maximum party size; and maximum number of trips per season for each user) that were potentially applicable to the canoeing conditions of the Delaware River. The descriptive analysis considered what would specifically happen if a particular tool was utilized. Consideration was given to the characteristics of the resource and its users. 6 management tools were recommended for use in solving the specific problems on the Delaware: rationing through advanced reservations; rationing by queuing; permits; designated camping; redirecting to other areas; and maximum party size. These tools can be used individually or they may be combined to form a comprehensive plan.

155. SQUIRES, R.W. Effects of acute exposure to moderate simulated altitude on the aerobic capacity of men. Ph.D. in Physical Education, 1979, 150 p. (E.R. Buskirk)

The effects of acute exposure to moderate simulated altitude on aerobic capacity (V_{O_2}max) and related physiological variables were investigated using 12 male volunteers who were physically conditioned from a regimen of regular endurance running. 6 graded exercise tests to max effort on a treadmill were performed by each S while in a hypobaric chamber. Treadmill speed was maintained at a moderate running pace (12.9 or 14.5 kmph), and increases in exercise intensity were achieved by raising treadmill grade. The 1st and the 6th tests were performed at ambient (control) altitude (362 m). The 2nd-5th tests were performed at simulated altitudes of 914, 1,219, 1,524, and 2,286 m, with the order of presentation randomized for each S. Ss were not informed regarding the order of altitude exposure. Ss performed no more than 1 test/day and the duration of the altitude exposure for each test was 1-2 hrs. The first 5 min of each exercise test (warm-up) were performed at 12.9 kmph and 0% grade, and this interval was designated as brief constant-load submax exercise. During minute 4, the variables measured were: V_{O_2}, HR, V_{CO_2}, R, TV, f, and V_EBTPS, V_ESTPD. V_{O_2} was lower than control at 2,286 m whereas V_ESTPD was sig lower at 1,524 and 2,286 m. At 914, 1,524, and 2,286 m V_EBTPS was sig elevated. HR was unchanged while R and TV were sig higher at 1,524 and 2,286 m. During the final min of exercise, at max intensity, the variables measured were: V_{O_2} max, HRmax, V_{CO_2}max, R, TV, f, $V_E$max BTPS, $V_E$max STPD, V_{O_2} max/HRmax, $V_E$maxBTPS/V_{O_2}max, $V_E$max STPS/V_{O_2}max, and SaO_2 max,%. Postexercise BP was measured, and in 4 Ss capillary blood was sampled for subsequent arterial blood gas and pH analysis. Total external work performed was calculated. It was concluded that physical work capacity, in well-conditioned persons living at 362 m. is reduced during acute altitude exposure to 1,219+m.

156. STEVENS,N. The investigation of anxiety, motivation, and flow experience in competitive sport. M.S. in Physical Education, 1979, 77 P. (D.V. Harris)

The flow state in physical activity has emerged as a phenomenon whose existence can no longer be denied. However, concrete investigations of the factors mediating flow experiences in sport have been scarce. The purpose of this study was to assess the relationship between anxiety, motivation, and flow experience in field hockey among female collegiate players at 7 schools (N=112). Competitive trait anxiety was measured by using the Sport Competition Anxiety Test (SCAT). 4 facets of achievement motivation--Mastery, Work, Personal Unconcern, and Competitiveness--were assessed using the Work and Family Orientation questionnaire (WOFO). Intensity of flow experience in field hockey was assessed using the Activity Experience Questionnaire (AEQ). Pearson Correlation analysis revealed a sig negative relationship between the Competitiveness score on the WOFO and intensity of flow experience. Further, a sig r between competitive trait anxiety and intensity of flow experience was found. However, no sig relationships were found between the subscales of Mastery, Work, and Personal Unconcern and the intensity of flow experience. Results indicated that flow, an intrinsically motivating experience characterized by a merging of action and awareness, occurred among hockey players who were less anxious and less competitive.

157. TAKACH, D.J. Motion-adapted creative dramatics and its effects on the self-concepts of physically handicapped students exhibiting mobility problems. M.S. in Recreation and Parks, 1979, 131 p. (H.M. Lundegren)

A motion-adapted creative dramatics (MACD) program focuses on assisting the physically handicapped (PH) exhibiting mobility problems in coping with limitations, so that positive self-concept (SC) development is possible. 5 MS PH Ss and 1 ELE PH S (4m, 2f; ages 8 to 14) exhibiting mobility problems received a MACD program. The CSCS was used to measure changes in SC; 3 sociograms were administered to measure changes in peer acceptance. The MACD program began with sedentary activities and gradually incorporated more active ones, so that PH Ss learned to cope with limitations. Each S received 50 MACD sessions, 30 min in length 5 times a wk (over a 3-mo period) to test if changes in SC were positive and if changes in SC were positively related to changes in peer acceptance. A 1-tailed paired *t*-test ($P<.05$) was used to analyze changes in SC. Sociograms were used to indicate changes in peer acceptance. Even though 4 of the Ss (2m, 2f) had increases in SC, the analysis of the data indicated no sig increase in SC. Sociogram data for 4 of the Ss (m) showed a possible positive relationship between changes in SC and changes in peer acceptance; a positive relationship did not exist for f Ss. Peer acceptance decreased for 4 of the Ss (2m, 2f). The decrease in peer acceptance could have been due to minimum group interaction prior to the MACD program. Perhaps the Ss had not learned group cooperation, or the Ss had learned to overcome their own limitations in movement but never learned to accept the limitations of their PH peers.

158. THERRIEN, R. G. Angular acceleration attenuation for brain injury prevention in ice hockey. Ph.D. in Physical Education, 1979, 143 p. (R.C. Nelson)

The injury potential of oblique head-board impact in ice hockey was investigated. A dynamic model of the situation was developed and brain injury criteria were selected. Means of reducing head-helmet friction were selected; helmets were modified accordingly and their performance was evaluated using a headform pendulum for testing. Angular and linear accelerations transmitted through the helmet to the instrumented headform in an oblique impact were measured. Simultaneous on-line analog recording and high-speed filming of impact phenomena were performed. Exploratory analysis of data showed that the angular accelerations were above human tolerance level. Statistical analysis of friction, velocity, and the helmet factors showed that reduced friction between head and helmet did not provide adequate protection.

159. WEST, R.E. Standards and criteria for third-party reimbursement of therapeutic recreation services in general hospitals in the Commonwealth of Pennsylvania. M.S. in Recreation and Parks, 1979, 108 p. (H.M. Lundegren)

In addition to the main problem, a sub-problem of the study was to develop a set of standards and criteria for therapeutic recreation (TR) service in general hospitals that meet the general criteria for reimbursement by the third-party payors. A questionnaire was developed, using medicare regs as a reference, to be used in interviews with the private and commercial third-party payors who account for the majority of third-party reimbursements to PA hospitals. In the interviews with the reps of 10 insurance companies, the investigator attempted to ascertain the factors used to determine whether a treatment service is eligible for reimbursement. Data were grouped according to whether they were responses from private third-party payors or responses from commercial companies, with a comparison made with respect to the frequency of responses and the responses to open-ended questions. From these data, standards and criteria for TR Service in general hospitals were developed that were consistent with the reimbursement considerations of the third-party payors. Based upon these findings, it appears that: potential exists for third-party reimbursement of TR services in general hospitals; TR service in this setting must demonstrate accountability as a restorative service, conducted as an aspect of reasonable and necessary medical care, to be eligible for third-party reimbursements; to be generally accepted as reasonable and necessary medical care, the TR profession needs to gain more understanding, acceptance, and support of physicians and other health-care-professionals; and standards need to be developed for TR services in hospitals which will standardize procedures and provide quality assurance.

160. WILLIAMS, B.L. The effects of a program of motor skills on the developmental behavior of the institutionalized severely and profoundly mentally retarded. M.Ed. in Recreation and Parks, 1979, 122 p. (H.M. Lundegren)

The Ss (N=3) received the Skill Development Checklist M.A.P. Project and a prescribed developmental motor skills program. Each S met for 15 min/day, 5 days/wk for 7 wks. Ss were pretested individually with the Bayley Infant Development Motor Scale (BIDMS). At the conclusion of the 7-wk instructional program, the Ss were again administered the BIDMS. Analysis at the beginning and end of the program showed all Ss were in need of continuous practice in varying aspects of gross motor skill development. Comparisons of the pre- and post-scores for the BIDMS showed sig improvement in each S's motor skill development index. Most individual performance changes in the motor areas measured were in the areas of balance and flexibility. The chronological age of Ss was not indicative of the development indexes achieved by each. When chronological age, mental age, and IQ are considered, a more realistic comparison can be made. It was concluded that a program of motor skills does affect the developmental behavior of the severely and profoundly mentally retarded person in a positive manner. At the time it is recognized that the performance level of the Ss is still extremely low in terms of their chronological age.

161. WOLSKI, A. A survey of offensive strategies in intercollegiate lacrosse. M.S. in Physical Education, 1979, 81 p. (J.A. Lucas)

Data were gathered through questionnaires mailed to 75 head lacrosse coaches at specifically chosen colleges and universities throughout the US. The institutions were selected so as to secure a cross-section of the entire population. Geographic location of the institution, membership in either Division I or Division II-III of the NCAA, and level of team strength were the factors considered in securing a representative sample of the entire population. Each coach was asked to provide two formations and record the following data on each: special player abilities for each position within the formation, advantages of the formation, disadvantages of the formation, and rationale for using this particular offense in a specific coaching situation. The plays or movement patterns for each formation were diagrammed and described by those participating. 34 schools returned the questionnaires. The returned questionnaires were edited and the data summarized under the proper headings. Play and movement patterns were then diagrammed and described for each formation.

PURDUE UNIVERSITY (C.J. Widule)
WEST LAFAYETTE, INDIANA

162. BROOKHART, G.L. *A comparison of the mechanical characteristics of the jump shot of college-age male and female varsity basketball players*. M.S. in Physical Education, 1979, 82 p. (C.J. Widule)

163. HART, L.M. *A biomechanical analysis of female middle distance runners: treadmill versus overground running*. M.S. in Physical Education, 1979, 35 p. (C.J. Widule)

164. HITCHCOCK, L.D. *An individualized instructional program for the uneven parallel bars*. M.S. in Physical Education, 1979, 76 p. (A.A. Annarino)

165. PATTENGALE, L.K. *Effects of a ten year habitual exercise program on selected physiological variables in adult men*. M.S. in Physical Education, 1979, 77 p. (D.L. Corrigan)

166. PAUL, D.J. *Use of the Roberton model to evaluate throwing behavior of two-year-old children*. M.S. in Physical Education, 1979, 44 p. (C.J. Widule)

167. SANTOS, del Campo, J.A. *The use of a statistical system for the prediction of winning and losing in women's volleyball*. M.S. in Physical Education, 1979, 63 p. (D. L. Corrigan)

168. SYLVESTER, L. *Effects of physical recreation of the self-concept of mentally retarded adults*. M.S. in Recreation, 1979, 79 p. (W. Theobald)

169. WHITF, G.N. *The development of a leisure disposition simulation model and its utilization in urban recreation planning*. Ph.D. in Recreation, 1979, 327 p. (W. Theobald)

SAN JOSE STATE UNIVERSITY (E.L. Lindquist)
SAN JOSE, CALIFORNIA

170. EORIO, J.C. *A history of physical education at San Jose State University 1862-1927*. M.S. in Physical Education, 1977, 114 p. (W.F. Gustafson)

PE at San Jose State University (SHSU) was traced for 65 yrs. SJSU had the following "firsts" in PE in CA: requirement in 1862, instruction at an institute of higher learning in 1862, professionally trained instructor in 1863, male instructor in 1864, teacher training in 1866, summer school session in 1915, special credential in 1918, first graduate with a special credential in 1918, first graduate with a special credential in 1922. From 1862 - 1921 SJSU was basically a women's teacher training institution. With the addition of the JC to the campus in 1921, more men began attending, and this increased the role of men's athletics at a time when women's athletics was being phased out in favor of less competitive activities. With a differing philosophy of PE and the role of athletics within the deptartment, the women created their own department in 1927.

171. KANGAS, Oran. Effect of Kung Fu training upon selected personality traits. M.S. in Physical Education, 1978, 61 p. (M.R. Liba)

172. HATLING, P.L. The effects of right direction practice on left direction performance. M.A. in Physical Education, 1978, 73 p. (E.L. Lindquist)

173. KNOPF, Karl. The effects of progressive resistance weight training program on paraplegic individuals. M.S. in Physical Education, 1978, 58 p. (E.M. Prange)

174. PLANK, T.E. The effects of electromyographic training on the range of active elbow motion in selected individuals with post-cerebrovascular-accident spastic hemiphegia. M.A. in Physical Education, 1979, 76 p. (G.A. Gaesser)

The positive influence of EMG training on the active range of motion of the elbow joint in 6 Ss with a spastic pattern of the biceps was supported. The Ss (aged 39-59) were randomly divided into an exp group (Ss 1-3) and a control group (Ss 4-6). Both groups received standard therapeutic active/passive range-of-motion exercises and 1 passive-resistive exercise to be carried out at home daily and 1 hr individual treatments twice a wk for 12 wks at the Biofeedback Institute of Santa Clara County. In addition, the exp group received biofeedback treatments. Active range of motion was evaluated 4 times using a standard goniometric technique. A substantial increase in active range of motion for S 1 was greater than that of the control group. Retention of the newly-acquired active range of motion was shown by Ss 1 and 2. No learning occurred during the retention phase without EMG feedback. Active flexion and extension was maintained by 2 of the 3 exp Ss.

175. SAWAN, I.Z. Attitudes of nonhandicapped community college students toward handicapped individuals. M.A. in Physical Education, 1979, 58 p. (A. Scarbrough)
Nonhandicapped college students' attitudes toward handicapped individuals was compared using Ss (total N=328) from 2 JCs in Santa Clara County: 1 JC which conducted an adapted PE program and 1 JC which did not. The Ss (aged 16 to 49) responded to Lazar's Attitudes Toward Handicapped Individuals scale. This 6-point scale was designed to measure attitudes of acceptance or rejection of the handicapped by nonhandicapped individuals. Following brief instructions by the investigator, the Ss in each class were allowed 15 min to complete the instrument. Comparing the results of the 2 scales, a sig difference ($p<.05$) was found on the t between the 2 schools in favor of the JC having an adapted PE program. This group tended to reflect favorable attitudes, seeing the handicapped as not more sensitive or less productive than the nonhandicapped.

176. SEABLOM, Wendell R. Relation of plasma lipids and sex in endurance trained rats. M.A. in Physical Education, 1978, 51 p. (E.M. Prange)

177. WHITE C.A. Sports involvement: a study to determine the reasons for participation in organized sports. M.A. in Physical Education, 1978, 282 p. (B.J. Conry)

SOUTH DAKOTA STATE UNIVERSITY (B.C. McKeown)
BROOKINGS, SOUTH DAKOTA

178. ESBOLDT, Gary M. The effects of participation in competitive basketball on weight-loss and selected measures of basketball related skills. M.S. in Health, Physical Education, and Recreation, 1979, 67 p. (B.C. McKeown)
21 college males ($\bar{X}$ = 19.4 yrs) were assigned to 4 basketball teams according to their level of involvement, intramural participants (untrained=10) and intercollegiate players (trained=11). 18 Ss completed the study. Each team consisted of 5 players per session. Anthropometric data of ht, wt, and % body fat were collected. Treatment consisted of a 36 min workbout comprised of 3 competitive basketball games of 12 min each on 2 separate days. Replicated pre- and post-treatment measurements

of basketball related skills involved modified vertical jump, dribble agility, and shooting tests. Data were analyzed using an independent *t*-test, a dependent t-test, and Pearson *r*. Participation in competitive basketball resulted in the following findings: a sig reduction in wt ($p < .01$), a sig diff in wt loss between trained and untrained groups ($p < .01$), a sig decrease in shooting proficiency ($p < .05$), and no sig diff in power and agility measures ($p > .05$).

179. MORAN, Barbara A. *An investigation of the validity of selected submaximal field tests to estimate aerobic capacity in untrained females.* M.S. in Health, Physical Education and Recreation, 1979, 105 p. (B.C. McKeown)
The purpose of this investigation was twofold: to determine the validity of selected submaximal field tests used to estimate aerobic capacity, and to determine the association of VO$_2$ with the performance of selected submaximal field tests. 18 females ($\bar{X}$ = 19.4 yrs) volunteered as Ss. Prior to the first 2 field tests, anthropometric data of ht and wt were collected and % BF, FW, and FFW were computed from skinfold measurements. The field tests investigated were the 12 min run, the 600 yd run, and the QCST. All measurements were analyzed for reliability and reproductivity by the use of a Pearson *r* and paired *t*-tests. The field test performances and estimations of max VO$_2$ (l/min and ml/kg/min) were compared with the max VO$_2$ estimated by the duration of the Balke-Ware Treadmill Test to determine validity. There were no sig diff between max VO$_2$ estimated from the 12 min run and the QCST. There was a sig diff ($p < .05$) found between the max VO$_2$ (l/min and ml/kg/min) estimated by the Balke-Ware Treadmill Test and that estimated by the 600 yd run. No sig relationships were found between the performance scores from the 12 min run, the 600 yd run, and the QCST and max VO$_2$ estimated by the Balke-Ware Treadmill Test.

180. SMITH, Betty K. *The effect of anxiety on shooting profiency among college women basketball players.* M.S. in Health, Physical Education and Recreation, 1978, 60 p. (B.C. McKeown)
Members of the 1977-78 South Dakota State University Women's Basketball Team (N=12) were measured on State Anxiety Inventory (SAI); Sport Competition Anxiety Tests (SCAT); pre-game HR; game field goal %; game free throw %; season field goal%; and season free throw %. Ss in Group 1 consisted of the players who attempted over 122 field goals during the season, while

Group 2 attempted 95 field goals or less. Results of ANOVA indicated sig ($p<.05$) diff between groups on season field goal % and SAI. Subsequent data analyses throughout this study incorporated only the values from Group 1. A sig r was found between scores on the SAI and SCAT. Sig ($p<.05$) multiple regression equations to estimate field goal shooting proficiency from selected measures of anxiety produced multiple R's ranging from .47 to .66 and accounted for between 22 and 44% of the variance in performance. A multiple regression equation for predicting free throw success was not sig (p .05).

181. SZUCS, Terry J. *Enrollment in the basic physical education instruction program and post-graduate selection of leisure time activities*. M.S. in Health, Physical Education and Recreation, 1979, 72 p. (B.C. McKeown)

A survey was conducted to determine the extent to which enrollment in the required PE Instruction Program at Lock Haven State College, PA, may have influenced graduates in their selection of leisure time activities. Questionnaires were sent to the spring class of 1975 (N=318) and 1976 (N=211). Usable returns equaled N=99. Calculations of the no. and % were used for distribution and questionnaire analyses. Calculations of central tendency and variability of selected factors were used to determine levels of activity participation. Pearson r was calculated among selected factors. The final statistical analysis procedure involved the use of a multiple regression technique for predicting current activity participation patterns from selected factors. Findings indicated that PE instruction influenced 33% of the Ss in their selection of post-graduate leisure time activity. Factors found significant ($p<.05$) in estimating current activity frequency from activity class variable were course content, maintaining physical fitness and whether the class was coed.

SOUTHEAST MISSOURI STATE UNIVERSITY (R.F. Kirby)
CAPE GIRARDEAU, MISSOURI

182. ABRAMS, Harvey L. *The history of the United States Olympic wrestling team from 1896 to 1920*. M.A. in Teaching, 1979. 145 p. (R. Kirby)

The purpose of the study was to investigate the selection of American wrestlers and their success in the Olympic Games from 1896 to 1920. Data were collected from documentary sources in Australia, Canada, East Germany, England, Finland, Greece, Norway, Sweden, West Germany and the US, as well as from human sources such as the athletes or their relatives. It was found that wrestling was included in the first Olympic celebration in 1896 and all others that followed, with the exception of 1900. American wrestlers first participated in the Olympics in 1904. The selection of wrestlers was loosely organized until 1920, when a very elaborate process was utilized. American wrestlers were found to be frequent winners in the Catch-as-catch-can style of wrestling, but no American won a medal in Greco-Roman wrestling. The names of most of the wrestlers have been correctly identified which has helped to complete Olympic records.

183. BISHOP, Kim. The effects of three methods of weight loss in college women. M.A. in Teaching, 1979. 70 p. (S.R. Caskey)
30 volunteer S's were divided into 3 groups: Group 1 participated in a 1200-calorie diet program; Group 2 participated in a diet/exercise program; and Group 3 participated in a diet/exercise, and behavior modification program. For the 11 subjects who completed the program, raw scores from wt. loss and skinfold measures were converted into T-scores. ANOVA yielded no differences in wt. loss among the 3 groups. There was a high r between wt. loss and fat loss in all 3 groups. No sig relationships were found between the amount of wt. loss and the amount of obesity measured at the beginning of the study. It was concluded that neither exercise nor behavior modification enhanced wt. loss of college women on a diet. Wt. loss and skinfold measurement losses were highly related. Finally, the amount of wt. loss in college women was not related to the amount of obesity.

184. CLINGER, Elsa Andrea. A comparison of selected measures of static and dynamic kinesthesis. M.A. in Teaching, 1979, 77 p. (R. Kirby)
40 S's performed [illegible] trials each of 4 selected tests of static kinesthesis and 5 trials each of 3 selected tests of dynamic kinesthesis. r's were computed among the tests, as well as between static and dynamic kinesthesis indexes. Only one sig r was found which was between the dynamic components of rate and force. Using t- tests for independent groups, the static kinesthesis, the dynamic kinesthesis, and the combined kinesthesis indexes for males and females and for PE majors and nonmajors were compared. No sig diff occurred due to the sex or major of the S's. Using the results of the 4 static kinesthesis tests and the static kinesthesis index, a regression analysis was conducted. The results were significant for all 4 tests.

A regression analysis involving the results of the 3 dynamic kinesthesis tests and the dynamic kinesthesis index also yielded sig results for all variables except the force test. It was concluded that static and dynamic kinesthesis are specific in nature, static kinesthesis tests are specific in nature, the dynamic component of dimension is specific in nature, but the dynamic components of force and rate are significantly related.

185. PARK, Lee H. Standardization of the SEMO flexibility test. M.A. in Teaching, 1979. 73 p. (R. Kirby)
The purpose of this study was to develop a simple, inexpensive, valid, and reliable instrument for measuring trunk-hip flexibility. The S's (N=40) included 17 W and 23 M who were selected at random from a group of volunteers. In establishing the validity of the SEMO flexibility test, the Wells and Dillon sit and reach and the Leighton flexometer tests were administered. The validity coefficients obtained were: the Wells and Dillon and the SEMO tests, $r = .75$; the Wells and Dillon and the Leighton tests, $r = .70$; and the SEMO and the Leighton tests, $r = .63$. For reliability, the test-retest method was utilized with the best and the $\bar{X}$ scores. ANOVA and a R were also calculated to determine the reliability for the SEMO test. r's were computed between the 4 trials of the SEMO test in order to find the relationships among trials and to determine the number of trials necessary to obtain an accurate score. The reliability r's ranged from .92 to .99 among each of the trials in the test and retest; $r = .97$ when the best scores were used; and $r = .98$ when the $\bar{X}$ scores were used. R = .93 for the 4 trials of the test and R = .92 for the 4 trials of the retest were found. It was concluded that the SEMO test is a valid and reliable tool for measuring trunk-hip flexibility. The test is not time consuming to administer, nor is leg length an important factor.

186. ROSE, Darlene L. A survey of women's gymnastics coaching techniques used in selected American colleges. M.A. in Teaching, 1979. 70 p. (J.E. Schneider)
Coaches (N=55) of successful collegiate women's gymastic teams were sent a 75 item questionnaire covering the Olympic events. The questionnaire had 7 sections: miscellaneous team information, practice and competitive schedules, warm-up and conditioning, floor exercise, balance beam, uneven parallel bars, and side horse vaulting. A multiple choice format was used to facilitate completion of the questionnaire and to enable the results to be tabulated by computer. 60% of the coaches

returned the questionnaire. Among the findings were: the teams practiced 7-9 mos or more a year, 5-6 days per wk and 3 hrs a day; the majority of teams performed on all 4 events in every practice session and spent 30-40 min per event; strength, flexibility, and running programs were used as part of the training; and it appeared that the coaches had the gymnasts practice on the balance beam and uneven bars more than on floor exercise or vaulting.

SOUTHERN ILLINOIS UNIVERSITY (J.L. Thorpe)
CARBONDALE, ILLINOIS

187. CARLSON, Rolland D. Blood acid-base and cardiorespiratory responses to breathing resistance with the Calypso IV SCUBA regulator during submaximal exercise. M.S. in Education, 1979, 65 p. (R.G. Knowlton and P. Carroll)
Experienced male SCUBA divers (N=11) performed a multistage max VO_2 test on a bicycle ergometer in air. Each S then exercised at 65% VO_2max ventilating with the Calypso IV SCUBA regulator or a low resistance Collins Triple J valve in air. Blood samples were obtained at rest, during, and after submaximal exercise. No sig diff ($p > .05$) were found during submaximal exercise for VO_2 and RQ between the two valves. However, the V_E and f were sig ($p < 0.05$) reduced with the Calypso IV. Blood pH, buffer base, base excess, and HCO_3^- were sig lower, while higher HR and HLA were found with the SCUBA regulator. PCO_2 was increased similarly with both valves during submaximal exercise. There was a combined metabolic and respiratory acidosis with both breathing valves, but a greater metabolic acidosis with the SCUBA regulator at the same work load. Evidently, the greater ventilatory resistance of the Calypso IV resulted in a greater metabolic requirement for the respiratory muscles, which was fulfilled by an earlier shift to anaerobic metabolism in the respiratory muscles.

188. JERZ, Charles M. Two contrasting speeds of isokinetic exercise for the development of strength and anaerobic power. M.S. Physical Education, 1980, 83 p. (R.G. Knowlton)
Two stipulated bouts of exercise were studied for the development of strength and anaerobic power in college men (N=18). Pre- and post-test strength scores were obtained isometrically, using methods employed by Clarke, for leg extension and flexion. Anaerobic power scores were assessed according to methods employed by Margaria. ANOVA indicated both treatment groups sig

improved in strength when compared to the control group ($p<.05$). Sig diff between treatment groups were observed at the 115° angle for leg extension, favoring slow bouts of isokinetic exercise. No sig diff were observed between treatment groups for leg flexion and anaerobic power.

189. KILDEA, Alice E. Meaningfulness in life, locus of control and sex-role orientation of selected female athletes and non-athletes. Ph.D. in Education. 1979, 179 p. (J.L. Thorpe)

Meaningfulness in life (MIL), locus of control (LC) and sex-role orientation (SRP) were studied utilizing 100 female intercollegiate athletes and 100 nonathletes at Southern Illinois University, Carbondale. Data were collected in the Spring Semester of 1979 by means of the Purpose in Life Test, and Nowicki-Strickland Internal-External Scale and the BEM Sex-Role Inventory. Data analyses included correlation, chi-square, ANOVA and Duncan's Multiple Range Test. Statistically sig diff, $p<.10$, were found indicating that the athletes demonstrated greater (MIL) and that the % of masculine and androgynous (SRO) Ss among athletes was higher than among non-athletes. Though athletes did not differ from non-athletes on LC, internal (low LC) Ss of both samples demonstrated greater MIL. Masculine (SRO) Ss of both samples demonstrated higher MIL while androgynous (SRP) athletes demonstrated greater MIL than athletes of all (SRO) categories. Masculine (SRO) athletes were found to be more internal (low LC) than all other athletes.

190. McDONALD, Susan K. The frequency of occurrence and effectiveness of serves in racquetball. M.S. in Education. 1979. 102 p. (J.L. Thorpe)

The frequency of occurrence and the effectiveness of the drive, 'Z", garbage, and lob serves used in racquetball were determined using 33 players in the novice, advanced, and professional ranks while engaged in matchplay at 4 tournaments (serves observed = 2557). An observation sheet was developed by the investigator. Data were examined by frequencies, %, and chi-square. The drive serve was found to be used most often by players in all of the leagues, followed by the 'Z', garbage, and lob serves, respectively. A 3 x 4 ANOVA was utilized to examine diff among the serves in effectiveness among the leagues and types of serves. Novice players were found to be most effective in serving (gaining the most advantage), followed by the advanced players. Professional players were found to be least effective in serving (gaining the least advantage). Duncan's Multiple

Range Test indicated that the leagues (groups) were sig diff from one another in serving effectiveness, and the drive serve was sig more effective than the 'Z', garbage, and lob serves.

191. MIZE, Monica. Attitude toward physical activity as a function of sex-role orientation. Ph.D. in Education. 1979, 139 p. (J.L. Thorpe)

The purpose was to determine the relationship between attitude toward physical activity and sex-role orientation (SRO) of college students. Scores on the Kenyon Attitude Toward Physical Activity Inventory (ATPA) and the Bem Sex-Role Orientation Inventory (BSRI) were processed by intercorrelations, *t*-tests, ANOVA, Duncan's Multiple Range Test, and χ^2. All variable of the ATPA were interrelated except chance and aesthetics for the total group. Analyses of the male and female groups yielded some different results for various factors of the ATPA. Sig diff between males and females in ATPA and SRO were in vertigo for males and aesthetics for females. Classification of Ss in the categories of SRO vary but are similar when the medians of the present study were utilized instead of the original Bem medians. Of 267 Ss in the total group, 89% remained in the same categories. In the analysis by sex,89% of males and 89% of females also retained their original classification.

192. POLITINO, Virginia. Attitude toward physical activity and self-concept of emotionally disturbed and normal children. Ph.D. in Physical Education. 1979. 177 p. (J.L. Thorpe)

Ss were 80 emotionally disturbed and 381 normal children. The data were scores on the Children's Attitude Toward Physical Activity Inventory (CATPAI), Piers-Harris Children's Self-Concept Scale (P-HCSCS), a questionnaire, and an interview. Data were processed through correlation, t-test, ANOVA, and regression procedures. Sig relationships between attitude toward physical activity and self-concept existed for Social Experience, Thrill, Release of Tension, and CATPA Composite for the emotionally disturbed children and for Beauty in Human Movement and CATPA Composite for normal children. Normal children had a more favorable attitude toward physical activity than did the disturbed children. Sig diff between females and males in attitude toward physical activity and self-concept existed for Thrill, Release of Tension, and Long and Hard Training for males and Beauty in Human Movement for females. Self-concept of the disturbed and normal group was best predicted by the Long and Hard Training sub-scale of the CATPA and the CATPA Composite. Sig interactions existed between sex and age, emotional status and sex, hospitals and sex, and hospitals and age on various sub-scales of the CATPA and on self-concept.

193. SUELLENTROP, *Jeanne M. A variation of Russian downhill sprint training for selected college students*. M.S. in Physical Education. 1979. 119 p. (J. Thorpe)

The effectiveness of a variation of Russian Downhill Sprint Training in improving the 100-yd dash times of selected college students was investigated. Ss included all students enrolled in a general studies (N=24) and in a PE majors (N=27) track and field class. Each of the 2 classes was split randomly into control and exp groups. A pre-test consisting of 2 trials at a 100-yd dash was conducted, after which the subjects underwent a 6-wk sprint training program consisting of 6, 100-yd dashes run twice per wk throughout the study. The exp groups ran sprints on a 3 1/4° downhill slope, whereas the control groups ran sprints on the flat track. Retests of 100-yd dash time were conducted at 2, 4, and 6 wks. At the conclusion of the study, Ss completed an experience questionnaire and an attitude questionnaire. Data were analyzed by *r*, ANOVA, regression analysis, and %. A sig diff was found in the rates at which the control and exp groups decreased/increased their 100-yd dash times over the 4 tests. All groups showed sig improvement in 100-yd dash time. However, the exp group did not improve their 100-yd dash times to a sig higher degree than the control group.

194. WEISHAR, Kathleen Jo. *The construction of a skill test for goal shooting in water polo*. M.S. in Education, 1979, 94 p. (J.A. Thorpe)

An objective, reliable, valid and practical test to measure goal shooting ability was constructed using college men and women (N=23) registered in a General Studies Water Sports class. Accuracy and velocity scores were recorded on 2 days of testing; shots were thrown to both a right (R) and a left (L) target. Pearsons *r*'s and ANOVA suggested that accuracy and velocity are independent factors, and are not substantially related. Shooting scores to the R vary from L scores for accuracy; however, scores obtained when shooting to the R are similar to L scores for velocity. Accuracy and velocity objectivity coefficients were sufficiently high to warrant the use of one accuracy scorer and one velocity rater. 10 trials to both R and L goal targets on each of 2 days of testing (40 trials total) provide for a reliable estimate of performance.

195. WENGER, Pat E. A revision of the Kenyon A-T-P-A Inventory. M.S. in Education. 1979, 153 p. (J.L. Thorpe)
Ss were 30 members of general studies PE classes at Southern Illinois University, Carbondale, during the Spring of 1979. Data were collected through 2 forms of the ATPA--semantic form (KS), Likert form (KL), and the Wenger revision (WL+6). Data were analyzed by Pearson r, ANOVA for repeated measures, and Duncan's Multiple Range Test. Sig diff ($p<.10$) were found between the sexes among the inventories on the aesthetic, ascetic and vertigo subscales. The inventories yielded different scores. The KS and KL were similar to the WL+6 for males, females and the total group among the 6 subscales. Males and females scored similarly on the KS and WL+6 across the 6 subscales. The WL+6 had a high relationship among identical subscales with the KL. The reliability of the WL+6 was somewhat inconsistent among males, females, and the total group for the various subscales.

196. WIGGLESWORTH, Janet K. Two types of grips for backhand strokes in badminton. M.S. in Education. 1979, 136 p. (J.L. Thorpe)
The purpose of the study was to compare the effectiveness of the thump-up backhand grip and the no-switch backhand grip in the performance of the backhand clear stroke in badminton. Ss were 99 undergraduate students (30 male and 69 female) enrolled in 4 general studies classes of badminton at Southern Illinois University, Carbondale in the Spring Semester of 1978. Two questionnaires were given to assess previous experience in badminton. A pre-test of 10 trials of the French High Clear Test modified to measure backhand clearing ability, and a post-test of 20 trials (10 trials on each of two separate days) of the same test were given to all Ss. Data were analyzed through correlation, t-test, ANOVA, and ANCOVA. Statistically sig diff, $p<.10$, were found indicating that the use of the no-switch backhand grip did not result in a loss of power in the backhand clear stroke for both male and female beginning badminton players.

SPRINGFIELD COLLEGE (W. Sullivan)
SPRINGFIELD, MASSACHUSETTS

197. ALFIERI, Salvatore. A study to determine the difference in the attitude of high school students with different levels of exposure to the physically disabled persons. M.S. in Physical Education, 1979. 50 p. (J. Parks)

Ss (N=300) were HS students who were categorized according to their degree of exposure to disabled persons. All Ss were administered the Attitude Toward Disabled Persons Scale (ATDP). ANOVA and Newman-Keuls were used to analyze the data. It was found that groups with no exposure, exposure to a friend, and exposure to a relative all showed a sig ($p < .05$) more positive attitude for the disabled than did the group with 2 or more classroom exposures to the disabled.

198. BEN-EZRA, Victor. The influence of caffeine on running time to exhaustion in highly trained long distance runners. M.S. in Physical Education, 1979. 57 p. (J. Mahurin)

Ss were 7 men actively engaged in competitive long distance running. The Ss were tested by a walk-run treadmill test 3 times. The first was to determine each S's anaerobic threshold (AT). Each S was then tested 2 more times, once having ingested caffeine and once ingesting a placebo. 10 ml of blood was drawn prior to and following each of the latter 2 runs. Also collected during the latter 2 runs were perceived exertion ratings (RPE). ANOVA revealed that caffeine had no effect on running time to exhaustion, but caffeine did lower the RPE. Blood glucose, insulin and HGH levels were found to be higher following running than prior to running. Insulin levels were higher following the caffeine trial than following the placebo trial.

199. BROADFOOT, Jr., Robert G. A biomechanical analysis of superior and inferior alpine ski racers making a carved turn. M.P.E. in Physical Education, 1979. 63 p. Scheuchenzuber)

Ss were 13 members of the Mt. Tom Junior Alpine Ski Team who were able to perform a carved turn at different ability levels consistently. Based upon their times they were divided into 3 groups: Superior, Intermediate and Inferior. Only the Superior and Inferior groups with 4 Ss each were used in the final phase of the study. These Ss were filmed while performing the carved turn; several parameters were measured and comparisons were made between the 2 groups. It was concluded that the superior performers completed the turn faster because they were able to angulate their right knees more efficiently.

200. CAMPBELL, Donald W. The relationship of selected measures of physical performance and structure to quality of performance in collegiate football. D.P.E., 1979. 153 p. (W. Sullivan)

40 male members of the 1978 Springfield College varsity football squad were tested for ht, wt, 10, 20, 30 and 40 yd dash, speed, VJ, agility, upper body strength, and lateral movement. In addition, each player had a game performance score assessed by the grading of a game film selected at random. Data were treated by multiple R and regression and r. No relationships were found between ht and wt and performance nor between agility and performance. No relationship was found between upper body strength and performance. Speed was found to relate positively to performance. It was concluded that performance in football cannot be effectively predicted by combinations of the structural and physical performance variables utilized in the study.

201. CUNNINGHAM, Lee N. The effects of endurance fitness levels and duration of diabetes upon selected components of pulsatile blood flow. D.P.E., 1979, 151 p. (C. Keeney)
Ss were 60 male volunteers (18-30 yrs). 40 Ss were insulin-dependent, juvenile-onset diabetics; 20 were non-diabetics. The diabetic Ss were further classified as short-term or long-term diabetics. Within each of the 3 categories, half of the Ss were classified as low endurance fitness and half as high endurance fitness. All Ss were measured for pulsatile arterial blood flow at rest and for 15 min following an exercise challenge consisting of 3 min isometric contraction of the right calf. A 2 x 3 ANOVA was used to analyze several components of the blood flow. It was concluded that diabetics exhibit normal pulsatile min flow values at rest apparently achieved through increased vasodilation of the peripheral vasculature. High levels of endurance fitness appear to be related to a lengthened flow run-off which may help to explain the increased metabolic efficiency which results from endurance training. Diabetes, regardless of duration, is associated with decreased hyperemic pulsatile blood flow. Long-term diabetes and low levels of endurance fitness are related to decreased vessel elasticity. High levels of endurance fitness are associated with a larger peripheral exercise hyperemic pulsatile stroke volume.

202. FORBES, Verge. The decision-making environment in intercollegiate athletics. D.P.E., 1979. p. 226. (J. Parks)
The study attempted to determine the nature of the athletic administrators' decision-making environment 10 yrs in the past and 10 yrs in the future. Data were collected using the Delphi Method and consisted of 3 rounds. The sample was composed of 242 athletic administrators (ADs) from the 3 NCAA divisions. Data were analyzed by χ^2 which resulted in the following

conclusions: ADs desire to maintain the status quo in their decision-making environment. There is a uniqueness of internal decision making environment at the larger schools, as well as within the 3 divisions. ADs at smaller schools are more aware of changes which have affected their decision-making environment. ADs have been adept at coping with change. They take a strong position against change occurring in the future. Intercollegiate athletics will remain as a societal stabilizer and as a representative of traditional values. ADs are not prepared to deal with meaningful changes in the future decision-making environment in a creative manner.

203. GROVE, Kathleen M. Biomechanics of take-off technique in water ski jumping. M.S. in Physical Education. 1979, 65 p. (J. Scheuchenzuber)

6 experienced water ski jumpers were filmed during a competitive tournament. Analysis of data was accomplished by using descriptive statistics and r which led to the following conclusions: vertical velocity and angle of take-off are not significant components of the "pop;" forward angle of lean produced a better body position on the ramp which resulted in a longer jump; extension of the legs prior to the ramp and at the top of the ramp resulted in greater distances jumped; preparation for the "pop" occurred in front of the ramp at the expense of actual velocity; skiers who carried the greatest velocity onto the ramp jumped the farthest.

204. HOVEY, Kim. The relationship between anxiety and competition in men's intercollegiate volleyball. M.S. in Physical Education, 1979. 75 p. (M. Murray)

Ss were 12 members of the men's intercollegiate volleyball team at Springfield College. All Ss completed the Sport Competition Anxiety Test (SCAT) during a team meeting. Subsequently, each S completed the State Anxiety Inventory (SAI) 3 times, once 2 min before a practice session, once 5 min before a regular season game and once 5 min before a tournament game. It was found that trait anxiety cannot be used to predict state anxiety; the 3 competitive situations of practice, regular season game and tournament game do not produce different state anxiety reactions; an interaction exists between trait anxiety and the 3 competitive situations; a positive relationship exists between trait anxiety and tournament state anxiety.

205. LANE, Allison J. *An investigation of hand sculling velocity while in the inverted vertical position*. M.S. in Physical Education, 1979, 58 p. (J. Scheuchenzuber)
Ss (N=12) for this investigation were female members of an AAU synchronized swimming team from Springfield, MA. They were filmed while sculling in the inverted vertical position, and several measurements were taken. Data were analyzed by *r* and *t*, and it was found that there were no relationships ($p > .05$) among outward sculling velocity, inward sculling velocity and $\bar{X}$ sculling velocity at ankle ht. There were no sig relationships ($p > .05$) among outward sculling velocity and inward sculling velocity, inward sculling velocity and leg ht all at maximum ht. There were significant relationships ($p < .05$) among the following variables at maximum ht: outward sculling velocity and $\bar{X}$ sculling velocity, leg ht and leg segments wt; inward sculling velocity and $\bar{X}$ sculling velocity and leg segments wt; $\bar{X}$ sculling velocity and leg ht. and leg segments wt and; leg ht and leg segments wt. There were no sig $\bar{X}$ diff ($p > .05$) between outward sculling velocity and inward sculling velocity at ankle ht and maximum ht.

206. MARTIN, Thomas P. *The influence of high intensity training on the anaerobic threshold of female endurance athletes*. M.S. in Physical Education, 1979. 69 p. (A. Mahurin)
8 female competitive endurance athletes between the ages of 19 and 24 yrs entered the study following a prolonged period of low intensity training. They were tested for Anaerobic Threshold (AT) and Max VO_2. They then engaged in a 6 wk program of high intensity training and were posttested. ANOVA found that the AT was significantly greater ($p < .01$) after the 6 wk high intensity training. There was no change ($p > .01$) in Max VO_2.

207. McCABE, Thomas. *The effect of an explosive rope jump conditioning program on the time of a twenty-five yard dash for college lacrosse players*. M.S. in Physical Education, 1979. 37 p. (B. Jensen)
Ss (N=36) for this study were members of an intercollegiate lacrosse program. They were randomly assigned to 1 of 3 groups. One group trained by rope jumping at a ht of 18 in. A second group trained by rope jumping at a ht of 10 in. Rope jumping was done 3 times per wk for 6 wks. Both groups as well as a third group (control) participated in regular lacrosse practice sessions. All Ss were pretested in the 25 yd dash. ANCOVA showed no differences ($p > .05$) in speed among the 3 groups.

208. McGOWAN, John Joseph. Effects of dry-land proprioceptive exercise on hand-forearm positioning in the front crawl stroke. M.S. in Physical Education, 1979. 34 p. (B. Jensen)

24 noncompetitive swimmers enrolled in a swimming skills course were randomly assigned to an exp group (N=11) or a control group (N=13) and filmed while swimming the crawl stroke in order to ascertain the angle of the hand and forearm. The exp group underwent a dry-land proprioceptive exercise program utilizing the "propio plinth." The control group swam and received instruction in stroke mechanics at the end of each lap. Both groups trained 5 min per session, 3 times per wk for 4 wks, in addition to participating in a regular swimming class. At the conclusion of the 4 wks, the Ss were again filmed to determine hand-forearm angle. ANCOVA led to the conclusion that students exposed to a dry-land proprioceptive exercise program do not improve their hand-forearm positioning in the front crawl stroke any differently from students not exposed to such a program.

209. McLEAN, Patricia A. A comparison of personality traits between selected individual and team sportswomen. M.S. in Physical Education, 1979. 62 p. (J. Parks)

Ss for this study were female members of the varsity field hockey, J.V. field hockey, softball, tennis, track and field teams at Springfield College. All Ss were administered the Athletic Motivation Inventory. ANOVA showed no differences in personality traits between team and individual sport team members. When sports were compared individually, however, softball players were found to be lower than other team members in the trait of coachability, and track participants were found to be higher than other team members in the trait Trust.

210. MILLER, Joan Lynn. A comparison of two methods of teaching hurdling to women physical education majors at Springfield College, 1979. 59 p. (J. Scheuchenzuber)

Ss were 17 female PE majors at Springfield College who had no previous experience in hurdling. They were taught hurdling by 1 of 2 methods; a lowered hurdle ht progression or by utilizing specific drills as leadup activities for developing the correct hurdling techniques. Ss received instruction 3 times per wk for 4 wks. They were tested for time in the 40 m dash before and after the instructional period and for 50 m dash with 3 hurdles. Ss were also filmed after the instructional period for biomechanical analysis. ANOVA, ANCOVA _t_ and _r_ were used in the analysis of data which resulted in the following conclusions: No diff in hurdling time score would be expected whether novice hurdlers are taught by specific drills or lowered hts teaching methods. Improvements in hurdling technique are not dependent on the teaching method used as evidenced by the fact that the groups showed no difference on several cinematographical measures.

211. MILLS, Brenda S. A comparison of two swimming methods upon selected tests of non-buoyant beginners performing the front crawl. M.S. in Physical Education, 1979. 87 p. (J. Parks)

Ss for this study were 21 beginning swimmers. 10 were taught swimming using the Red Cross method and 11 were taught using the Non-Bouyant method. All Ss were taught 2 times per wk for 8 1/2 wks (17 lessons). Ss were tested in the front crawl for distance test, test for form and a speed test. The t test was used to anlyze the data, and it was found that the Ss taught by the Non-Buoyant method were able to swim longer distances than the group taught by the Red Cross method. There were no differences in form or speed between the 2 groups.

212. SABATINO, Maria Lisa. Differences in the preferred and non-preferred hand performance for the floor hockey snap shot. M.S. in Physical Education, 1979. 81 p. (B. Jensen)

Ss for this study were 20 male students at Springfield College. Handedness was determined by the use of a questionnaire. Each S performed 25 trials on the floor hockey snap shot each with his preferred hand and non-preferred hand. The velocity and accuracy of each shot was assessed. The design was a 2 (handedness) by 2 (preferred vs nonpreferred) by 5 (trial blocks) ANOVA with repeated measures on the latter 2 factors. Separate ANOVA's were used to analyze the velocity and accuracy scores at the .05 level resulting in the following conclusions: handedness is not related to the velocity and accuracy of the shot, velocity of the shot is not affected by hand preference, but performers are more accurate when shooting with the preferred hand.

213. TAYLOR, Donald L. A comparison of the changes in anaerobic threshold between middle and long-distance runners. M.S. in Physical Education. 59 p. (J. Mahurin)

Ss for this investigation were 10 experienced male runners. 5 were middle-distance runners. All Ss were administered a graded maximal exercise test as a pretest in March and as a posttest in May. Between the pretests and posttests the Ss engaged in their regular training programs for a period of 7 to 10 wks. Analysis of data was accomplished by ANCOVA and t. No diff $(p>.05)$ in AT or Max VO_2 were found between the middle distance and long distance runners. Further, no diff $(p>.05)$ were found between pretest and posttest scores for either AT or Max VO_2.

214. ZIMMER, Elizabeth Ann. *A temporal comparison of selected starting positions for baserunning in slow pitch softball.* M.S. in Physical Education, 1979. 67 p. (J. Scheuchenzuber)
10 male college students with no previous playing experience in either baseball or softball on an organized competitive basis were taught the 3 starting positions (one-step behind, one-step in front and the initial cross-over step) and were tested for C-A time (ball reaching home plate) and speed for 10 yds toward second base. A 2 factor (sex and starting positions) mixed design was utilized. ANOVA revealed that the one-step in front and the initial cross-over step methods produced faster $(p<.05)$ C-A times than the one-step behind method but there was no diff between the one-step in front and the initial cross-over step methods. In terms of performance time (10 yds), the males were faster $(p<.05)$ than the females but there were no differences among the 3 starting positions.

STATE UNIVERSITY OF NEW YORK COLLEGE AT BROCKPORT, (D. Hurwitz)
BROCKPORT, NEW YORK

215. BELL, J.A. *An analysis of the qualifications and perceived effectiveness of athletic directors in the Maryland public secondary school athletic association*. M.S. in Education, 1979. 85 p. (B. Beck)
By means of questionnaires, the personal characteristics and professional qualifications of high school athletic directors (AD) were studied. Also determined was the essentiality of the listed qualifications for the position of AD. It was found that 72.5% were between 30 and 49 years of age, 7.4% were female, and less than 6% were Negro. In addition, 26 of the 47 qualifications differed according to size of school; ADs and principals agreed on the essential qualifications; "related" education courses was the most important category; and intercollegiate and interscholastic ADs agreed on the order of essential qualifications for the position of AD. The ADs were found to be well qualified in terms of general education, coaching experience,

sports participation, and professional involvement, but not as well qualified in terms of administrative experience and "related" education courses.

216. CHALMERS, Bonnie Lynn. A chronometric analysis of the effect of sex and sensory modality on the running performance of visually handicapped individuals. M.S. in physical education, 1979. (M.M. Silva)
The purpose of this study was to compare the effect of two sensory aids on the running performance of 40 female and 40 male visually handicapped subjects participating in a 40 yd dash. Ss ranged in age from 6-21 and attended various schools and institutions in MA, NJ and NY. Ss were blocked according to sex and randomly assigned to 1 of 2 treatment conditions. Treatment 1 utilized an audible goal locator; treatment 2 utilized a tactual guide wire. Ss were tested individually. A timed performance score was recorded for each S. A 2 (sex) x 2 (sensory aid) factorial ANOVA indicated no sig diff in the scores of Ss utilizing an audible goal locator as compared to a tactual guide wire. Males performed sig faster than females. This finding supported research concerning visually impaired males and females on various physical performance tests. Suggestions were offered in an attempt to further research concerning performances of visually handicapped individuals in various physical settings and for evaluating the effectiveness of sensory aids.

TEMPLE UNIVERSITY (M.G. Owen)
PHILADELPHIA, PENNSYLVANIA

217. ADAIR, J.D. The influence of perceived aspects of parental and peer expectancies of the skill in movement activities, parental warmth and parental authority on self-identification of kindergarten girls as active and competent movement performers. M.Ed. in Physical Education, 1979, 80 p. (C.A. Oglesby)

218. BOROWSKI, R.P. The life and contributions of Walter Camp to American football. Ed.D. in Physical Education, 1979, 353 p. (B.D. Lockhart)

219. BREDEMEIER, B.J. The construction and validation of an instrument designed to assess expressive and instrumental power value orientations in sport and in everyday life. Ph.D. in Physical Education, 1979, 351 p. (C.A. Oglesby)

220. BURNSTINE, D. Factors of supervisory help: perceptions held by physical education college supervisors, student teachers, cooperating teachers, and college faculty members in Pennsylvania. Ed.D. in Physical Education, 1978, 172 p. (D. R. Hilsendager)

221. CAPUTO, R. An analysis of the professional preparation of interscholastic athletic coaches in Pennsylvania. Ed.D. in Physical Education, 1978, 186 p. (B.D. Lockhart)

222. CHAMBERLAIN, J.R. The effects of Mosston's "practice style" and "individualprogram-teacher design" on motor skill acquisition and self-concept of fifth grade learners. Ed.D. in Physical Education, 1979, 157 p. (M.S. Goldberger)

223. DUKELOW, J.D. A comparison of the effects of three short delays of augmenting videotape feedback on the learning and retention of a novel motor skill. Ph.D. in Physical Education, 1979, 176 p. (J.B. Oxendine)

224. GOLDFARB, A.H. Effect of an acute exercise-stress on the cyclic AMP cascade system in the rat myocardium. Ph.D. in Physical Education, 1979, 127 p. (Z.V. Kendrick)

225. HERZIG, M.R. An analysis of ECG parameters included in electrical systole and their relationship to coronary heart disease of varying degrees of severity. Ph.D. in Physical Education, 1979, 160 p. (A.M. Paolone)

226. O'TOOLE, M.L. Alterations in movement of protein fractions and changes in plasma volume during systematic acclimatization of females to work in a hot environment. Ph.D. in Physical Education, 1979, 125 p. (A.M. Paolone)

227. SKINDELESKI, M.C. The history of women's intercollegiate athletics at Temple University. M.Ed. in Physical Education, 1979 66 p. (B.D. Lockhart)

228. SMITH, C.L. Male-female differences in thermoregulatory responses to hot-wet versus hot-dry environments. M.Ed. in Physical Education, 1979, 110 p. (A.M. Paolone)

TEXAS A & M UNIVERSITY (L.J. Dowell)
COLLEGE STATION, TEXAS

229. ASHBY, Alan A. The coding and retention characteristics of two dimensional movements. Ph.D. in Physical Education, 1979, 144 p. (H. Tolson and C. Shea)

This study examined the short-term memory charactersitics and recall performance for two dimensional movement information. 72 Ss were randomly assigned to either a distance, location, or combined distance plus angle movement cue groups. Trials were presented under immediate, 15 sec rest, and 15 sec filled intervals along with repeated trials to 4 designated movement sectors. The experimental design was a 3 X 3 X 4 (Group X retention interval X sector) ANOVA repeated measures on the last two factors. The results indicated that two dimensional distance information was accessible to central processing, while this was not the case for location or distance plus angle cues. Also, sector effects were found only for certain sources of movement information (i.e., distance plus angle) with longer movements recalled less accurately than shorter movements.

230. BARTON, Joel R. The effects of physical exertion on immediate and delayed mental performance of adult females. Ph.D. in Physical Education, 1979, 89 p. (H. Tolson)

72 college female students were used to investigate the effect of physical exertion on mental performance. Ss were randomly assigned to a control group or 1 of 3 groups varying in intensity of physical exertion; 110 bpm, 145 bpm or 180 bpm. Each test session consisted of a pretest, a 6-min bicycle ergometer work bout, and 4, 2 1/2 min posttests scheduled 0, 5, 10, and 15 min after the exercise bout. The Brown and Poulton test of Attention was used as the dependent variable. A 4 X 4 ANCOVA with repeated measures revealed that exertion of relatively short duration does not affect mental performance of adult females.

231. CONE, Stephen L. The relationship between self-concept and selected physical characteristics among female varsity athletes and non-participants. Ph.D. in Physical Education, 1979, 103 p. (J. Chevrette)

48 female varsity athletes and 51 non-participants were administered the TSCS and completed a demographic data questionnaire. Data were collected on the following independent variables: somatotype, % body fat, physical fitness and motor ability. Results of the analysis revealed no sig diff between

athletes and non-athletes. The multiple regression analysis indicated no sig relationship between the independent variables and self-concept.

232. FENNESSY, Robert L. A case study of Texas schools of allied health sciences polarized in terms of organizational climate. Ph.D. in Health Education (Allied Health), 1979, 204 p. (L. Ponder)
This investigation compared a school of allied health science which had an open organizational climate with a school of allied health science which had a closed organizational climate in the areas of deans' leadership styles, deans' interpersonal relationships, deans' behavior in conflict situations, selected program characteristics, selected faculty characteristics and selected student characteristics. Because of the nature of this study, generalizable conclusions were not appropriate. The study was conducted primarily for its hypothesis-generating potential.

233. GREGORY, William B. Thermoregulatory boundaries to exercise in hot, humid environments. Ph.D. in Physical Education, 1979, 102 p. (G. Jessup)
8 male volunteers were selected for their known participation in long-distance running to investigate the thermoregulatory mechanisms associated with exercise of long duration in a hot, humid environment. All Ss were exercised at 65% of max VO_2 at 3° grade in an environmental chamber controlled at +0.5° C/+1 % relative humidity. Each exercise session was scheduled for a max of 90 min treadmill running with a 15 min recovery period. It was concluded that highly fit individuals can be submitted to exercise stress in the region above the 28° C WBGT line bounded by the proposed curve without ill effects but thermoregulation in areas within the 28° C WBGT line and below the 17 mm Hg water vapor pressure may be questionable. The Stolwijk's Model seems to predict adequately at points between 12 and 19 mm Hg Water vapor pressure as described on a psychrometric chart.

234. HUSAK, William S. The effect of verbal labels on the organization and retention of a series of movements in memory. Ph.D. in Physical Education, 1979, 144 p. (H. Tolson)
45 Ss were presented a series of 6 movements within the memory span to determine the effects of varying labels on the organization and retention of a movement series. A total of 3 trials

were administered. Experiments 2 and 3 were similar to 1 with the exception of an increase in series lengths to 9 and 12 movements, respectively. It was concluded that verbal mediators strongly influence the manner in which movement information is organized in memory, the use of meaningful verbal labels led to consistent and accurate reproduction of previously presented movements, and varying series lengths lead to different retention patterns dependent upon whether the movement series was within or outside the range of the memory span.

235. KELLY, Robert L. Determination of a range formula for a spherical ball under environmental conditions. Ph.D. in Physical Education, 1979, 191 p. (L. Dowell)
2 varsity baseball players threw 7 balls of various sizes and weights 3 times each to determine a range formula for spherical balls. 3 cameras were used to film the thrown balls to determine distance, angle and velocity. 2 hand calculated formulas and 2 computer developed programs were used to predict the distance a ball will travel when thrown under environmental conditions. It was concluded that the optimum angle of release to obtain max. distance for a thrown ball is less than 45° and varies among balls of different size and weight; the trajectory of a thrown ball is not a parabola, and the aerospace engineering computer program, mechanical engineering computer program, linear regression equation, and air resistance range formula are more accurate and less variable than the existing range formula in predicting actual distance a ball will travel.

236. KIRK, Anthony W. A comparison of selected isotonic methods of knee exercise and their effect upon certain aspects of uninjured knees. Ph.D. in Physical Education, 1979, 137 p. (H. Tolson)
58 male undergraduate college students were randomly assigned to 6 groups to compare the effects of 3 exercise methods involving isotonic apparatus and 3 modifications of these methods upon selected aspects of uninjured human knees. Each group exercised twice a week for 6 wks. It was found that leg girth and leg strength can be changed by exercising twice a week for 6 wks. No diff was found between the weight bout, N-K table or Universal Thigh-Knee Conditioner Machine as measured by changes in leg girth and knee stability, but the weight bout and N-K table were found to be sig superior to the Universal Thigh-Knee Conditioner Machine as measured by extension strength increase at 5° of flexion.

237. LOCKHART, Melissa C. A comparative analysis of traditional care, home care and clinic-based home care. Ph.D. in Health Education (Allied Health), 1979. 115 p. (L. Ponder)
150 patients of a hospital district were used to compare traditional care, home care, and clinic-based home care in the percentage of re-entry to the hospital, the length of stay upon re-entry, the cost of home care, the level of care and the diabetic standards of care. It was found that the 3 types of home care programs do not differ in the percentage of patient re-entry or the length of patient stay upon re-entry. The cost of providing traditional home care is not as expensive as providing VNA home care or clinic-based home care and the quality of care administered to diabetics in the clinic-based home care group was of higher standard than the other two groups.

238. PIPPIN, Grover D. Effectiveness of sex information dissemination by selected Planned Parenthood clinics, Ph.D. in Health Education, 1978, 121 p. (R. Hurley)
348 Ss were placed in a treatment strategy or control group to compare the effectiveness of 4 selected strategies of sex information dissemination at selected Planned Parentood clinics. It was found that sex knowledge of clinic clientele utilizing Planned Parenthood clinics can be sig increased through the use of audio-visual, independent study, one-to-one interview educational sessions and one-to-one counseling during a gynecolgic examination. In terms of sex knowledge gain, a combination of the independent study and a one-to-one interview educational session appears to be more effective for those more mature clients with lower than a 12 year educational level.

239. SELKER, Leopold G. The impact of bargaining unit placement on the role perceptions of departmental chairmen of four-year schools of allied health professions. Ph.D. in Health Education (Allied Helath), 1978, 170 p. (L. Ponder)
An instrument which elicited chairmen's perceptions of the duties, goals and satisfactions associated with their academic, administrative and leadership functions was administered to selected department chairmen. It was found that included and excluded chairmen were similar with regard to their perceptions of the time spent on duties, goal emphasis and satisfaction associated with their administrative academic and leadership roles.

240. ROGERS, Larry D. Participation of the blind in badminton through the use of audio and tactile aides. Ph.D. in Physical Education, 1977, 139 p. (J. Chevrette)
10 F and 8 M Ss enrolled at the Texas School for the Blind in Austin participated in the study to determine the usefulness of audio and tactile aids in enabling the blind to play badminton. A sound emitting shuttlecock was designed to produce tones audible from any location on the court. 2 locator devices each emitting a different frequency beeping sound were constructed and a court was developed which provided 3 different textured surfaces. Ss were divided into 3 groups of 6. Group 1, Ss were classified as legally blind, 20/200 or less. Group 2 Ss were adventitously totally blind and Group 3 Ss were congenitally blind. Ss were instructed in the use of the aids 1 hr/day, 5 days/wk for 3 wks. It was found that the use of audio and tactile aids are useful in enabling the blind to participate in badminton.

241. SQUIRES, William G. The effects of exercise and diet modification on HDL cholesterol in middle-aged sedentary males. Ph.D. in Physical Education, 1979, 78 p. (H. Hartung and G. Jessup)
60 sedentary males (35-65 yrs) were randomly assigned to 1 of 4 groups (N=15): control, diet only, exercise only and exercise with diet to determine the effects of chronic exercise training and diet modification on plasma high density lipoprotein. Data were analyzed at the end of 6 and 12 wks. It was determined that Ss participating in exercise and diet modification programs can alter coronary disease risk factors, and that 12 wks is not sufficient time to make a conclusion on the effects of exercise and diet modifications in changing HDL levels.

242. STAFFORD, Linda F. Determining effective nursing teacher behaviors in clinical settings. Ph.D. in Health Education (Allied Health), 1978, 107 p. (L. Ponder)
An instrument was developed through a Delphi process involving input from nursing educators, nursing practitioners and students of nursing. The instrument was administered to 95 educators, 120 practitioners and 189 students. It was found that certain clinical teacher behaviors were very important. Items given especially high ratings addressed behaviors such as functioning as role model for students, identifying important clinical content, and providing opportunities for students to practice problem solving and technical skills.

243. TOLLETT, Susan M. A comparison of amount of geriatric curriculum content in terms of baccalaureate nursing students' attitudes toward the elderly. Ph.D. in Health Education (Allied Health), 1978. 106 p. (L. Ponder)
The Tuckman-Lorge Questionnaire and an Interview guide was constructed and administered to 570 Ss in 12 baccalaureate schools of nursing. Schools were divided into 3 groups according to the amount of geriatric curriculum content. It was concluded that baccalaureate nursing students' attitudes about the elderly do not differ regardless of the amount of geriatric content in their curricula; blacks have less stereotypic attitudes about the elderly than whites; and stereotypic attitudes about the elderly increases as the perception of the age when one becomes old increases.

244. WEINSTEIN, Ronald D. Faculty qualifications and student achievement in radiologic technology. Ph.D. in Health Education (Allied Health), 1978. 115 p. (L. Ponder)
600 fully accredited educational programs in radiologic technology in the US were surveyed to compare various types of faculty qualifications in terms of their influence on student achievement in educational programs in radiologic technology. 2 instruments were developed to ascertain information concerning characteristics of the program, no. of faculty and students, entrance requirements, and educational qualifications of directors and faculty. It was found that the area of study corresponding to collegiate sponsored radiologic technology educational program directors influences the academic achievement of students in that program.

TEXAS WOMAN'S UNIVERSITY (M. Hinson)
DENTON, TEXAS

245. CHEN, MOON S., Jr. The effects of a medically supervised group exercise program on the self-concept and life style of cardiac patients. Ph.D. in Health Education, 1979. 173 p. (D.J. Merki)
A nonequivalent control group design was utilized. Ss were 32 male cardiac patients who were treated by the Dallas Cardiac Institute exercise regimen. Control Ss were 19 male cardiac patients who were prescribed but never treated by the Institute exercise regimen. Ss were compared with respect to scores on the Dallas Cardiac Self-Concept Scale (8 facets of self-concept) and the Lifestyle Change Factors Scale (10 lifestyle factors). Based on ANCOVA applied to the 2 administrations of

the instruments, no sig diff (p>.05) between the experimental and control groups were found. Participation in a medically supervised group exercise program did not sig affect the self-concept and lifestyle factors of cardiac patients.

246. COWDEN, Jo Ellen. Administrator inservice training for program implementation in adapted and developmental physical education. Ph.D. in Physical Education (Adapted and Developmental Physical Education), 1980. 221 p.
Inservice training workshops for program implementation in ADPE were presented to 25 administrators of the Ford Bend ISD, Stafford, TX in 3, 1/2 day sessions. Information about present practices and conditions, their importance, and the intent of the participants to implement the ADPE program was obtained from a survey prior to the presentation of the first workshop training session and again 1 mo after completion of the workshops. Procedural steps for developing and presenting the workshop content were carried out. Consideration as to the effectiveness of the workshop required notation of actions resulting from the workshop, recording verbal comments of the participants and statistical analysis of responses to the administrator survey. It was concluded that the content developed for the workshops for program implementation in ADPE are appropriate for use with public school administrators. In order to demonstrate the effectiveness of such workshops, however, it seems desirable for training sessions to be limited to personnel having similar job responsibilities.

247. EAVES, Susan Farris. The functions of recreation and park boards in the state of Texas. M.A. in Recreation, 1979. S. Hudson)
This study investigated the functions carried out by recreation and park boards in Texas in relation to functions set forth by recognized authorities in the field of recreation and parks and in Recreation Administration textbooks. Ss for the study were 56 recreation and park board chairmen in cities with a population of 20,000 or more. Via questionnaire, the Ss were asked whether their board carried out the listed 23 functions of recreation and park boards. 53 board chairmen responded to the questionnaire (94.5% return). The following conclusions were drawn: the majority of the boards in Texas are advisory in nature; 14 of the 23 functions were carried out by the boards; over 1/2 of the board members receive training and/or orientation when they become board members and during their terms of office.

248. JEFFCOTT-SCHNEIDER, J.A. A cinematographic analysis of a royale. M.A. in Dance, 1979. 107 p. (M. Hinson)
Information regarding the performance of selected movement patterns in the royale was gathered through cinematographic analysis. A 22-yr old female high skilled in ballet was selected as the S. 3 dance experts chose the 3 most correct performances of 20 filmed from the front and side views of 60 fps. Body tracings of the S plottings of pertinent anatomical points were made at standing ready and standing finish; the deepest points of the preparatory and concluding pliés; first point of disengagement from the floor of the heels, balls of the feet, and toes; point of battu; highest elevation; and the point of most leg separation after the battu. These tracings were used to determine relative angles, absolute angles, and distances for the feet, shank, hips and back through implementation of the Numonics Electronic Graphic Digitizer interfaced to a Hewlett-Packard 9810 Calculator. Time in sec was noted between each selected frame, as well as % of total performance time. Findings were compared to descriptions of the royale in selected dance literature. It was concluded that the subject performed all 3 royales in a similar manner with minor variations, and that the majority of the basic movement patterns observed during those executions generally conformed to the standards set in reviewed dance literature.

249. LINDMAN, Cynthia S. Motor performance of exceptional and nonexceptional young children in mainstream physical education. M.A. in Physical Education, 1979. 135 p.
73 Ss classified as exceptional children and 132 Ss as nonexceptional children were administered the standing broad jump, the 50 yd dash, and the softball throw for distance. The data were compared with a normative sample found in the literature. The findings indicated that there were no sig diff between the exceptional and nonexceptional students on the standing broad jump. There were sig diff in the standing broad jump between the normative samples and this study's data. The $\bar{X}$ values for the boys at all 3 age groups and all conditions were faster than the performance of the girls. A comparison of the $\bar{X}$ values for the exceptional and nonexceptional children favored the exceptional group in 7 of the 8 age x sex groups on the 50-yd dash. There was a sig 3-way interaction on the softball throw for distance. It was noted that the exceptional children, ages 6 to 8, who were taught in a mainstream PE program performed as well as the nonexceptional students. It would appear that students labeled "exceptional" in this study may not be

in the performance of motor skills and, thus, the designation for comparative purposes may have no meaning in physical education setting.

250. LINDNER, Gayle Lee. The development of a slide/tape presentation of selected outdoor resident learning programs in Texas. M.A. in Recreation, 1979. (J. Teaff)
A slide/tape presentation was developed which was representative of an imaginary trip to an outdoor education residential learning center utilizing slides taken of activities and events at selected centers in Texas. The audio-visual material was developed to be used as an introduction to outdoor education as a teaching medium for communication of program objectives. Questionnaires were used to establish content objectives and evaluate the slide/tape presentation. A panel of 7 experts in the field of outdoor education in TX established basic content objectives similar to those developed by large metropolitan school districts throughout the country. The outdoor residential learning centers that participated in the project were from the independent school districts in Houston, Dallas and Forth Worth. Slides were taken on location while the programs were in actual operation. Slides representing content objectives were blended with audio statements designed to clarify and direct attention toward the stated objective. The slide/tape presentation was then submitted to the panel of experts. Results of the content objective questionnaire revealed an agreement on 27 objective areas. 7 concept statements and 20 activity statements represented concepts and skills widely accepted by authorities involved in TX outdoor education programs.

251. MIDDLETON, Nona K. The Waking: a choregraphic study of a woman's emerging personality. M.A. in Dance and Related Arts with Specialization in the Performing Arts. 1979. 75 p. (P. Hanstein)
Modern dance was used to create a theatre-dance piece which would personify 3 phases in the development of a woman's personality. The 3 developmental phases were: a subconscious unawareness of self; an awareness of self as defined by the stereotyped woman's role in the home; and an encounter with subconscious fears when the Woman sought to establish herself as a person outside the home role. 5 dancers were used in this 17 min work. 1 dancer represented the Woman. The other dancers represented aspects from the Woman's subconscious. The artistic merit of the work was evaluated by a questionnaire randomly distributed to the audience. The results of the

questionnaire survey indicated that the dance was highly successful in communicating to the audience on both an artistic and a choreographic level.

252. MOTTA, Daniel Ernest. Therapeutic recreation competencies: a comparison of educator and practitioner ratings. M.A. in Recreation, 1979. (J. Teaff)
44 competency statements were developed from a review of the related literature. The resulting competency statements were included in a questionnaire mailed to 450 therapeutic recreation practitioners and 50 therapeutic recreation educators. 46 educators and 232 practitioners supplied data for this study. Sig diff were found between the ratings of therapeutic recreation educator and practitioners with respect to competencies needed for job entry and job advancement. It was concluded that therapeutic recreation educators and practitioners are in general agreement on competencies a person with a Bachelor's degree in therapeutic recreation should possess for success in job advancement.

253. SCOTT, J.J. A biomechanical analysis of the horizontal jump performed by selected deaf preschool children. M.A. in Physical Education, 1979. 141 p. (M. Hinson)
The movement patterns of selected deaf preschool children performing the horizontal jump were investigated through utilization of motion photography and subsequent biomechanical analysis. Ss were 5 selected male 5 yr old deaf preschool children. Each S was filmed at a camera rate of 64 frames/sec while performing the horizontal jump at a 90° angle to the camera axis. The biomechanical analysis included: determination of sequential movement patterns of body segments; determination of displacement curves for the foot, shank, thigh, hip, trunk, shoulder, upper arm, and forearm; and determination of velocity and acceleration values for the Ss exhibiting the most and least developmentally mature jumping patterns. Results were compared with horizontal jump data for normal preschool children of the same age. A comparison indicated developmental delays of 12 to 18 mos in the normal acquisition of mature horizontal jumping patterns. These developmental delays may be partially attributed to the obstacle over which the Ss had to jump when performing the horizontal jump, as well as communication barriers and/or lack of play and movement experiences.

254. SPRAGENS, Jane Ellis. Inservice training of teachers to work in mainstreamed physical education settings. Ph.D. in Physical Education, 1979 (J.M. Moran)
A model was developed for a 1-day inservice training workshop in adapted PE and, specifically, the provisions of Public Law 94-142, The Education of All Handicapped Children Act of 1975. Emphasis was placed on training classroom, PE, and special education teachers responsible for planning and conducting PE activities for handicapped children in the public school. The model was evaluated in 2 ways. 3 exp workshops were conducted based upon the model. Pre and posttests of participants in the workshops indicated a sig gain in attitude favorable to mainstreaming and in knowledge and understanding related to the PE of handicapped children. Further evaluations were obtained from experienced individuals concerning the model as presented in charts and a narrative description. Judgments affirmed a need for such training and acknowledged that the model could be a practical aid in preparing and conducting such inservice training workshops.

255. SUTHERLAND, Ronda F. A study of the dynamic balance performance of profoundly retarded females; influence of footwear. M.A. in Physical Education, 1979. 69 p. (J. Rosentswieg)
Dynamic balance scores were obtained from 45 profoundly mentally retarded females in 3 age groups (9 to 17, 18 to 25, 26 to 46) by means of the Basic Movement Performance Profile. Ss were tested wearing shoes then the test was repeated without shoes. ANOVA indicated sig diffs ($p<.05$) did occur between trials, in favor of the second test, and for conditions, in favor of without shoes. The subsequent Tukey Test determined that it made no apparent difference if shoes were worn or not during testing. However, the findings indicated that one testing session without shoes is as valid as two testing sessions with shoes on. An order effect may have biased this study.

256. ZICKLER, M.L. Progressive resistance exercises for concentric strengthening of the quadriceps femoris: A comparative study. M.A. in Phy. Ed., 1979, 87 p. (Hinson)
Concentric and eccentric exercises of the right and left quadriceps femoris of 30 women (20-30 yrs) were performed 3 times/wk to determine any modifications in strength. The 6-wk PRE program consisted of 5 equal groups performing the following exercises: Group 1, eccentric contractions; Group 2, concentric contractions; Group 3, eccentric for 3 wks then concentric for

3 wk; Group 4, concentric for 3 wks then eccentric for 3 wks; Group 5 (control) observed 1 S exercising 3 times/wk. Each S's R and L quadricep strength was recorded, 1-RM, while performing concentric and eccentric contractions at the beginning of the program, mid-way, and at the conclusion. Resistance used was 25%, 37.5% and 50% of each S's 1-RM. Repeated measures ANOVA yielded no sig diff in strength between any of the groups at the pretest, 3-wk test, or the posttest. A sig diff in strength gain was exhibited at the 3 wk test for the control group over Groups 2, 3, and 4, but not over Group 5. It was concluded that participation of women in a 6 wk PRE training program of these types of minimal resistance does not produce a sig strength gain.

UNIVERSITY OF ALABAMA (W. Clipson)
UNIVERSITY, ALABAMA

257. PARKS, C.J. The effects of a physical fitness program on body composition, flexibility, heart rate, blood pressure and anxiety levels of senior citizens. Ed.D. in Physical Education, 1979. 89 p. (J.F. Smith)

15 female Ss (65-82 yrs) began each day with a 10-min period of warm-up exercises; for the next 15 min they performed exercises of moderate intensity and spent the final 5 min cooling down. Physiological variables were body composition, flexibility, HR and BP. Ss followed the program for 1/2 hr, 3 days/wk for 10 wks A t-test was used to locate sig diff between pre- and posttest measures for the physiological variables and the psychological variable, the State-Trait Anxiety Inventory. Ss decreased in body fat, increased in flexibility and decreased in HR. There was no sig change in systolic and diastolic BP and anxiety levels. A program of exercise, moderate in intensity and under proper supervision, was found to improve the physical fitness of the elderly and to be safe and effective. Exercise may also reverse some of the physiological changes characteristic of the aging process.

UNIVERSITY OF ARIZONA (K. Russell)
TUSCON, ARIZONA

258. CONTI, D.J. A comparative investigation of two training modes. M.S. in Physical Education, 1979. 60 p. (J.H. Wilmore)

This study compared the alterations in cardiorespiratory fitness and body composition consequent to a jogging program (J) and a Nautilus circuit weight training (CWT) program. 25 college females participated in the study. A CWT group (N=7) and a J group (N=9) underwent a 10 wk program of training, 30 min/day, 3 days/wk, at an intensity of 75% of Karvonen's THR formula. Sig pre to posttest changes were noted for both training groups in treadmill performance time, and absolute and relative VO_2max. The magnitude of change was greater for the J group. Between-group diff were noted for absolute and relative VO_2max values as the J group was sig diff from the control group (N=9) at the termination of training. There were no sig diff in the changes between the J and CWT groups. No sig changes in body composition were noted for the 2 training groups. It was concluded that CWT contributes to the development of cardiorespiratory health and is an efficient conditioning activity for altering strength and endurance time to exhaustion.

259. GUENZLER, J.T. Cinematographic analysis of selected types of softball pitches. M.S. in Physical Education, 1979. 233 p. (A.E. Atwater)
5 skilled male pitchers were filmed (side view - 200 fps, rear view - 70 fps) throwing a minimum of 3 trials each of the 3 most frequently thrown pitches in the Tucson AAA softball league: rise-ball, drop-ball, and change-of-pace. Whereas stride length, ball path prior to release, and selected events in the delivery remained consistent within Ss for the 3 types of pitches, variances among the 3 types of pitches existed in grip, release position, arm actions just prior to release, and ball trajectory. The rise-balls were characterized by a tucked index finger grip, ulnar deviation just prior to release, a $\overline{X}$ speed of 66.0 mph, and a vertical target landing point (46 ft from the pitching rubber) that was higher than predicted for a normal parabolic flight. Drop-ball pitches exhibited a 2 or 3 finger grip across the seam, r-u supination at release, a $\overline{X}$ speed of 68 mph, and a target landing point lower than predicted for a normal parabolic flight. Change-up pitches demonstrated either a loose or tight grip, simultaneous extension of the fingers at release, and a $\overline{X}$ speed of 43.5 mph.

260. HALLING, A.H. Isotonic vs isokinetic: an electromyographical study of the knee extensor musculature. M.S. in Physical Education, 1978. 89 p. (M.B. Anderson)
30 college age men and women PE majors were randomly assigned to one of 3 groups: isotonic, slow isokinetic, and fast isokinetic. Ss in the isotonic group performed 5 knee joint

extensions at 75% of max. Slow isokinetic Ss performed 5 repetitions at a speed of 60°/sec. Ss in the fast isokinetic group performed 15 repetitions at a speed of 180°/sec. All bouts were approximately 15 sec in length. The % of max static muscle activity was recorded in m. vastus lateralis, m. vastus medialis, and m. rectus femoris at joint angles of 85°, 45° and 5° during each exercise bout. Results revealed that the level of muscular activity was greater ($p < .01$) for the fast isokinetic group at 85° when compared to the isotonic group, and also greater at 45° when compared to the slow isokinetic and isotonic groups. The slow isokinetic group showed greater activity at both 85° and 45° than did the isotonic group. No sig diff in level of muscle activity existed among the 3 groups at 5° of knee joint extension. All 3 muscles exhibited similar pattern responses.

261. RYAN, K.M. A cinematographic analysis of the volleyball set. M.S. in Physical Education, 1979. 94 p. (A.E. Atwater)

Similarities and differences were examined among 3 types of volleyball sets: regular front set, back set, and two-set. Ss were 5 women who had played the setter position on an intercollegiate or USVBA team. Each S was filmed at 100 fps from a side view while performing several trials of the 3 types of sets. Trials were judged as successful with regard to ht and horizontal displacement restrictions defined within the study. Similarities among the setters in the projection velocity and angle, time of ball contact with the hands, and distance traveled by the ball while in the hands showed that these factors had a limited range within which the desired trajectory of a given type of set can be produced. Variability among the setters in the angle of trunk lean and the vertical displacement of the center of gravity implied that there was no one precise position or amount of movement needed to produce a successful set. Distinct diff among the 3 types of sets occurred in ball trajectory, angle of trunk lean, vertical displacement of the ball while in contact with the hands.

262. SCHULTZ, J. A tri-parametric investigation: flexibility, reflex activity, and strength as measured in normal and unstable ankle joints. M.S. in Physical Education, 1980. 88 p. (M.B. Anderson)

44 physically active college males were divided into injured (N=22) and uninjured (N=22) groups. The injured group was characterized by having one recurrent inversion sprain; the

uninjured group had never experienced an inversion sprain in either foot. Both ankles for all Ss were tested for inversion flexibility, eversion flexibility, stretch reflex latency, total RT, eversion strength, and inversion-eversion strength ratio. Data were analyzed by a 2 X 2 mixed design ANOVA. Results indicated that the 3 variables investigated did not differentiate between injured and uninjured ankles ($p > .0083$). Wide variability was observed across Ss, and the bilateral ankles of individuals from both groups were not sig diff, regardless of the incidence of inversion sprain.

263. SCHUTZLER, L.L. A cinematographic analysis of stride length in highly skilled baseball pitchers. M.S. in Physical Education, 1980. 109 p. (A.E. Atwater)
Stride lengths for major league (N=19), triple A minor league (N =21), and college varsity (N=18) pitchers were measured from side view films (12 fps) taken during game competition. Simultaneous records were obtained of the type of each pitch, type of delivery, and ball speed (measured by radar gun). Stride length was expressed as a % of the pitcher's ht (STLEN/H) and of his leg length (STLEN/L). Fastball speed and stride length were not sig diff for windup versus stretch deliveries, nor did stride length differ sig for the 3 fastest versus the 3 slowest pitches of each S. Although fastball speed was sig diff ($p < .05$) among the 3 groups of pitchers, STLEN/H and STLEN/L were not different. Only when the 15 fastest of all 58 pitchers were compared to the 15 slowest pitchers was STLEN/L sig greater ($p < .05$) for the faster pitchers. Stride length was more consistent within pitchers than across pitchers. It was concluded that a pitcher may have cause for concern about over- or under-striding if his stride length is more than 2 SD from the $\overline{X}$ found in this study STLEN/H $\overline{X}$ = 85.8%; SD = 4.2%; STLEN/L $\overline{X}$ = 163.7%, SD = 8.9%).

264. SOTTO, R.R. The relationship between physical activity and locus of control for disabled college students. M.S. in Physical Education, 1979. 63 p. (J.M. Williams)
The purpose of the study was twofold: to determine the locus of control of active (N=86) and non-active (N=69) physically disabled 2 yr (N=57) and 4 yr (N=98) college students, and to determine if the more externally oriented physically disabled 4 yr college students would change their locus of control towards greater internality through participation in a specially designed physical activity program. Locus of control was determined for all Ss by the Adult Nowicki - Strickland

Internal-External Scale. The specialized program consisted of 1 hr activity sessions, twice per wk for a period of 6 wks and 15 min counseling meetings which took place on an individual basis once a wk. Using a 2 way ANOVA, no diff was found between active and non-active disabled college students. However, there was a sig diff in locus of control between the 2 yr JC and the 4 yr state university Ss, with JC Ss being more external. The locus of control of the disabled students in the exp group (N=9) was sig shifted towards a more internal orientation following participation in a specialized physical activity program relative to a control group (N=9) which did not participate in the program.

UNIVERSITY OF ARKANSAS (G.C. Moore)
FAYETTEVILLE, ARKANSAS

265. DEYOUNG, D.J. A comparison of five methods of mental practice on the improvement and retention of a perceptual motor skill. Ed.D. in Physical Education, 1979. 73 p. (E.T. Hendricks)
Ss were divided into 5 groups of 16 each and matched on pretest performance on the 18 ft basketball jump shot. Each group had one of the following practice programs for the 6 wk exp program: uninstructed free mental practice (MP), instructed MP, irrelevant MP, relevant MP, or relevant mental imagery. Each S practiced 6 days a wk with each practice shot preceded by the specified practice condition. A total of 240 shots were taken during the 6 wks. Statistics included dependent and independent *t*'s. Conclusions were: relevant mental imagery (pretending they were doing the task mentally) is superior to all other treatments in the improvement of a basketball shooting skill and in the retention of the skill. All practice methods improved the basketball shooting skill.

266. MASON, W.F. An investigation of the relationship between the self-concept and physical fitness of white, American Indian and black women college students. Ed.D. in Physical Education, 1979. 143 p. (G.C. Moore)
Ss were white (N=20), Indian (N=20) and black (N=20) randomly selected women students at Northeastern Oklahoma State University. The How I See Myself Scale and the Lindsey Physical Fitness Test were administered. ANOVA and the Duncan's New Multiple Range Test were used. Conclusions were that all groups were more alike on feelings about themselves than they were different. All had positive feelings about themselves

and were above average on physical fitness. Black women were sig better on endurance than white or Indian women. No sig relationships were found between physical fitness variables and self-concept.

267. WARD, T.E. Hemoglobin, cholesterol, and triglyceride levels among middle-aged males following heme-iron supplementation. Ed.D. in Physical Education, 1979. 107 p. (G. Moore)

The effects of 10 wks of heme-iron supplementation on trained and untrained Ss were studied. Ss were 34 volunteers divided into trained (N=16) and untrained (N=18) groups, matched within groups on: % body fat, age, and blood chemistry variables. The McArdle Step Test was used to determine levels of fitness at the beginning and end of the study. Bimonthly blood values were determined for hemoglobin concentration, hemaocrit, serum cholesterol, and serum triglyceride levels. 1/2 of the trained and 1/2 of the untrained groups received 600 mgs of bovine freeze dried hemoglobin supplement daily throughout the 10 wks. The remaining Ss received a placebo daily. The double-blind method was used to administer the supplements and placebos. Statistics used included independent and dependent *t*, *r*, two-way ANOVA, and trend ANOVA. Conclusions were: trained middle-aged males have sig higher cardiovascular fitness than the untrained; serum cholesterol, serum triglycerides, and hemoglobin values are not related in middle-aged males; and hemoglobin supplements cause a significantly greater hematocrit level in untrained than in trained middle-aged males.

UNIVERSITY OF FLORIDA (R.E. Allen)
GAINESVILLE, FLORIDA

268. METZGER, Rhoda. Fun in the woods: the effects of a humanistic outdoor education program on fifth grade children. M.A.P.E., 1979. 85 p. (H.A. Lerch)

61 5th grade children participated in a 6 wk humanistic outdoor PE program. During the 6 wk period, sig ($p<.05$) diff were seen in the general self-concept scores of the pupils as measured by the Tennessee Self Concept Scale. Although the males improved in overall self-concept, the females showed a decrease. The statistical analyses determined that the treatment program was not the main causal factor of the self-concept score changes; however, a strong positive trend in the main effect was noted. It was speculated that had the program been longer in length, sig treatment results might have occurred. There was evidence

to indicate a general acceptance of the Fun In The Woods program via the written feedback cards. However, the ratio of positive to negative comments did not increase during the 6 wks as hypothesized, but instead, stabilized with minor fluctuations. Since the program was based upon a humanistic philosophy, N-1 analyses were performed on 27 of the 52 Ss having completed all facets of the testing and treatment as designated by the Solomon Four Group Design that was utilized. However, the N-1 analysis technique has limited validity when attempts at generalizations are made; therefore, each analysis had to be individually viewed.

269. NISCO, Elizabeth, E. The status of Title IX in public high school physical education programs in the State of Florida. M.A.P.E. in Physical Education, 1979. 76 p. (N.S. Whiddon)

Title IX of the Educational Amendments, effective in June, 1975, stated that educational institutions receiving federal financial assistance could not discriminate on the basis of sex. ELE school programs were required to comply with federal regulations within 1 yr, while SHS and higher education programs were granted a 3 yr grace period. Through a random sampling, questionnaires were mailed to 231 department of PE chairpersons in Florida public SHS, 98 of which were returned (42.2%). Xs, %, frequencies and distributions were calculated and the following conclusions were drawn: a greater % of urban county schools (75%) were in full compliance as compared to rural county schools (57%); course offerings seemed comparable for male and female students; female chairpersons outnumbered male chairpersons; and employment trends for men and women varied according to the type of county (urban-rural) and showed no discrepancy in hiring.

UNIVERSITY OF GEORGIA (Pat Del Rey)
ATHENS, GEORGIA

270. CLOWER, Mary Alice. The relationships of self concept, movement concept and physical fitness for college women. Ed.D. in Physical Education, 1978. 146 p. (C. Lewis)

The primary purpose of the study was to determine the interrelationships of physical fitness (PF) movement concept (MC) and self concept (SC). Ss were college freshmen women (N=258). Secondly, the effects of an 8 wk activities curriculum on SC, MC, and PF were examined. Diffs in the interrelationships were also investigated with regard to high and low fitness subgroups.

The AAHPER Physical Fitness Test Battery, Doudlah's Q-Sort for movement concept, and the Tennessee Self Concept Scale (TSCS) were the test instruments. Pearson's r's, partial r's, factor analysis, multiple regression and ANOVA were employed. Results of the study indicate that for low PF Ss, there is a moderate positive correlation for MC-self esteem. The r's also indicate that self integration, as well as self esteem, is improved by an enhanced MC. MC is related to several TSCS subscores for the low PF Ss, but high PF Ss exhibit a correlation only with the physical self item. There is apparently some threshold level of PF above which there is a positive r for MC and PF. The only sig ($P<.05$) r for PF and self esteem was observed for the post-treatment group. Factor analysis results define 3 major dimensions: self esteem-certainty, variability, or the inverse of self integration, and physical-movement. The relationship of self esteem-certainty and PF is strengthened, while self integration is less dependent on the physical-movement domain after treatment. PF average and MC may be used in linear combination as predictors of overall self esteem.

271. EAST, Whitfield Brown. Mathematical techniques for evaluating motor performance improvement. Ed.D. in Physical Education, 1979. 90 p. (T.A. Baumgartner)

A major objective in PE is the development of motor skills. An important aspect of the motor development schemata involves the evaluation of motor improvement (i.e. quantitative change in performance during the learning unit.) When evaluating improvement two major factors must be considered: improvement becomes increasingly more difficult as one approaches the limit of human possibility in that event; and improvement scores should be uncorrelated with initial performance. Traditionally motor improvement has been evaluated with a change score where: change = final performance - initial performance. However, change scores are biased in favor of the novice. Thus, 3 alternative improvement score techniques — residual score technique, Hale and Hale technique, and exponential regression technique — were analyzed with respect to the factors listed above. The residual score technique provides scores that are uncorrelated with initial performance; however this technique is essentially a linear operation and is unable to account for the theoretical performance ceiling. The Hale and Hale technique and the exponential regression technique both utilize exponential transformations in base e to provide acceptable improvement scores. Scores from these techniques correlated .2547 and .2520 respectively, with initial performance. Each technique also satisfactorily established a potential to convert into comparable terms the large increase of the novice to the small increase of the advanced student, thereby accounting for the performance ceiling.

272. EVANS Blanche Wallace. Effective physical conditioning on lactic acid removal rate. Ed.D. in Physical Education, 1979. 126 p. (C.G. Lewis and K.J. Cureton)
The effect of physical conditioning on the rate of lactic acid (LA) removal from the blood during active and passive recovery from strenuous exercise was investigated. 12 female and 4 male college students were randomly assigned to a control or a physical conditioning group. The conditioning group completed 6 wks of high intensity conditioning on the bicycle ergometer. The control group did not engage in any systematic endurance training. Prior to and immediately following the conditioning program, the rate of LA removal from the blood was measured during a 30 min recovery period following an all-out effort on the bicycle ergometer. Independent t-tests were used to test $\bar{X}$ diff between groups; dependent t-tests were used to evaluate group $\bar{X}$ changes over time. Physical conditioning did not result in a sig change in the rate of LA removal from the blood during passive recovery from exercise or during active recovery from exercise when measured at a standard work rate. Physical conditioning did result in a sig diff between the 2 groups in the rate of LA removal from the blood when measured at a given percentage of max VO_2.

273. HENSLEY, L.D. A factor analysis of selected tennis skill tests. Ed.D. in Measurement in Physical Education, 1979. 167 p. (T.A. Baumgartner)
A battery of 14 tennis skill tests was administered to 80 Ss enrolled in tennis classes at the University of Georgia in order to determine the factors underlying the tennis playing ability of beginning level tennis players. A theoretical model of the hypothesized dimensions of tennis playing ability was developed based upon a review of literature concerning tennis skill testing and a task analysis of the skills involved. These dimensions were: (a) forehand stroke, (b) backhand stroke, and (c) serve. The 14 tennis skill tests were selected to represent these hypothesized dimensions. Data were analyzed by the following factor-analytic models: (a) alpha factor analysis, (b) canonical factor analysis, and (c) maximum-likelihood factor analysis. Both oblique and orthogonal rotations were performed with each of the 3 analyses. The factor analyses

of the 14 test variables identified 3 factors that were robust across models: (a) stroking skills, (b) serving skills, and (c) volleying skills. It was also found that tests designed to measure forehand and backhand strokes were redundant in their ability to measure tennis skills. The results indicated that tennis instruction for beginning level players should be designed to teach the forehand and backhand strokes concurrently.

274. JOHNSON, S.M. Excess body weight and the physical performance of female college athletes. M.A. in Physical Education, 1978. 74 p. (K.J. Cureton)

The purposes of the study were to determine the relationship between body fatness and performance on selected physical performance tests and to determine the effect of externally-added excess weight on the same physical performance tests. Data collection for the study consisted of 2 parts: obtaining measures of % fat and scores on 4 physical performance tests, namely, the 50-yd dash, standing broad jump, modified pull-up, and agility run, on 44 female athletes; and secondly to administer the same 4 performance tests to 6 Ss, selected at random from the larger group, under 4 excess-weight conditions: normal weight (0%) and 5%, 10% and 15% excess weight, in which excess weight was added using a weighted belt. Moderate inverse relationships were found between % body fat and performances on each of the four tests. Increases in excess weight systematically reduced performances on each of the tests. The effect of the externally-added excess weight on the performance tests was similar to the association between each of the tests and % fat, indicating the associations between % fat and the performance tests could be interpreted as cause and effect.

275. McGINN, Arlene Fay. Conceptual model for games teaching with focus on personal integration. Ed.D. in Physical Education, 1979. 202 p. (A.E. Jewett)

A 4 step plan was used to develop and apply the conceptual model. Selected related literature was analyzed in step 1 to substantiate the choice of focus on personal integration. 4 key concepts were identified: purpose, decision-making, individual differences and practice. Each concept was translated into a propositional statement to facilitate a holistic approach to games teaching. In step 2, 3 dimensions of games teaching were identified to bridge the gap from theory to practice: curriculum theory, motor skill acquisition and games theory. The curriculum structure, called the Purpose

Process Curriculum Framework by Jewett and associates (Jewett and Mullan, 1977), provided the focus on personal meaning. Models from a cognitive information processing base by Whiting (1973), Marteniuk (1975) and Salmela (1975) provided the second dimension. The theory of games by Renick (1977) completed the framework. In step 3 a cyclical model was developed as an ecologically valid representation of the dimensions of games teaching. The final step consisted of application of the model as a tool to analyze the game of basketball, develop instructional goals, and construct a curricular package to develop concepts of teamwork and competition in secondary school P.E.

276. MANGHAM, P.N. Attitudes of selected secondary school students toward purposes of human movement. M.A. in Physical Education, 1979. 70 p. (A.E. Jewett)

The intent of the researcher was to discover the level of movement awareness of selected SHS students, examine the diff in response within the groups, make recommendations for the SHS PE curriculum, and to contribute to the body of knowledge concerning the Purpose Process Curriculum Framework (PPCF). A randomly selected sample from grades 9-12 ($N=87$) completed the Movement Purposes Attitude Inventory (MPAI) at the Turner County High School, Ashburn, Georgia. (The MPAI is a rewording of the purposes of the PPCF revised for student use as a semantic differential instrument.) 8 pairs of terms were responded to in regard to each of the 22 purposes. Each purpose was scored on 3 composite scales, total score, likability, and utility. ANOVA's were conducted to determine purpose diff, sex diff, and grade diff of these 3 scores. Sig diff were found among the purposes, with simulation valued significantly lower ($p<.01$) than all of the other purposes in all 3 dimensions. Manuevering weight was also sig lower ($p<.01$) than joy of movement in regard to likability and total score. Females were found to value the purposes sig higher than the males in the utility score ($p<.05$). No other sig diff were detected. Changes in wording of some of the purposes as stated in the MPAI were suggested. Further study of the school's PE needs and the needs of the students was also encouraged.

277. POTTER, D.L. Evaluation of movement process categories as a system for classification of instructional objectives. Ed.D. in Physical Education, 1979. 176 p. (A.E. Jewett)

Validation of the movement process categories of the Purpose Process Curriculum Framework as a system for classification of instructional objectives was the focus of the research. 13 selected physical educators from 3 school systems wrote instructional performance objectives intended to elicit student movement behavior illustrative of each of the 7 movement process categories. A panel of judges comprised of 4 groups classified 162 random ordered objectives. The groups were: AAHPER/NASPE members; NASPE Curriculum Academy members; graduate students who had studied curriculum development with the principal developer of the PPCF; and persons who have contributed to the development of the movement process categories. Analyses were conducted to ascertain consensus of classification of the objectives, utilization of the full range of the movement process categories, and the mutually exclusive nature of the 7 movement process categories. The analyses of data indicated that the validation criteria were not met.

278. PRESTON, Diane. A moral education program developed in the health and physical education curriculum. Ed.D. in Physical Education, 1979. 130 p. (R.J. Bowen)
The theoretical approach underlying this study is Lawrence Kohlberg's theory of cognitive moral development. According to this theory, greater moral reasoning capacity can be stimulated through certain types of experience in which the person experiences conflict with perhaps 2 or more moral issues. The program was designed to create this type of cognitive dissonance in order to advance moral reasoning in students. To determine level of moral reasoning, 68 9th grade students from an all black SHS in Atlanta, Ga. were administered the Defining Issues Test (DIT) by James Rest. ANOVA revealed no initial diff between experimentals (N=35) or control (N=33). The exp group followed the Kohlbert moral education process through 12 wks of HE and 12 wks of PE. Controls had some HE and PE curricula but no moral education. ANOVA revealed that the exp group showed sig gains on the DIT thus rejecting the null hypothesis ($p < .05$). The second null hypothesis was also rejected ($< .05$) regarding sex diff. Male scores were slightly higher than female scores. The investigator accounted for slight differences as due to greater interaction of male students with the program.

279. SPARLING, Phillip B. Biological determinants of the sex difference in distance running performance among trained runners. Ed.D. in Physical Education, 1979, 149 p. (E.L. Bundschuh)

The extent to which selected biological diff between men and women account for the sex difference in the 12 min run was determined. Ss were 68 moderately-trained runners, 34 males and 34 females (18-35 yrs). Cardiorespiratory capacity (VO_2max in ml/min·kg FFW), % body fat, running efficiency (VO_2 in ml/min·kg BW at 188 m/min), and anaerobic threshold (% VO_2max) were the independent variables used in the simple and multiple correlation and regression analyses. Men differed sig from the women on the 12 min run, cardiorespiratory capacity, and % fat ($\bar{X}$ diff = 547 m, 3.5 m., and 9.0%). No sig sex diff was observed in running efficiency or anaerobic threshold. The linear combination of % fat, cardiorespiratory capacity, and running efficiency was a good predictor of the 12 min run for the total group (R^2 = .84) and subgroups of men (R^2 = .66) and women (R^2 = .63). This combination of 3 variables accounted for 95% of the sex diff in the 12 min run with % fat explaining 74%, cardiorespiratory capacity 20%, and running efficiency 2%. Since diff in % fat and cardiorespiratory capacity may be largely sex-specific, distance running performance expectations and standards should differ for men and women.

280. TIBURZI, Antoinette. Validation of the construct of physiological fitness. Ed.D. in Physical Education, 1979, 288 p. (A.E. Jewett)

The structure of the domain of physiological fitness as it related to the types of tests and outcomes viewed as appropriate by curriculum designers within an educational setting was investigated. A theoretical model comprised of 12 factors was hypothesized. 24 experimental tests were selected to represent the 12 theorized dimensions of physiological fitness. The selected tests were administered to a sample of 56 male and 106 female undergraduate students at the University of Georgia. The correlation matrix for all 24 test items was analyzed using 4 different models of factor analysis and 2 rotational schemes. Only those factors found to be robust across solutions were considered as meaningful. The analysis of the 8 factor analysis solutions suggested that the 24 tests could be essentially represented by 5 factors for the female data: 1) leg explosive strength, endurance and speed; 2) balancing on the ball of 1 foot; 3) leg and trunk flexibility; 4) arm explosive strength and endurance; and 5) body fatness. 7 factors best represented the male data: 1) leg explosive strength, endurance and speed; 2) static balance; 3) leg and trunk flexibility; 4) arm explosive strength and endurance; 5) body fatness; 6) upper body strength and endurance; and 7) upper body flexibility.

281. WIESE, Cynthia Ellen. Sex role perceptions of athletes and nonathletes toward stereotypic performers in selected intercollegiate sports. Ed.D. in Physical Education, 1978. 190 p. (C.G. Lewis)

This study sought to describe and compare the perceptions that 4 distinct groups of college students had toward 12 concepts as measured by semantic differential instrumentation. The 4 groups were: male athletes, female athletes, male nonathletes, and female nonathletes. Ss (N=277) were full-time, undergraduate students enrolled at 4 Southeastern state universities during the 1977-78 academic year. 2 pilot studies were conducted to construct the semantic differential. Reliability for the pilot and final instruments was established through Cronbach alpha technique. Validity was assessed through a principal components factor analysis with varimax rotation of the data. A 2 x 2 ANOVA was used to determine if any sig sex diff, athlete-nonathlete diff, or interaction effects existed in the Ss' sex role perceptions. 6 sex diff, one athlete-nonathlete diff, and one interaction effect were found to be sig. The female Ss perceived 6 concepts more favorably than did the males. The concepts of female basketball player, female swimmer, male swimmer, and male track athlete were ($p<.05$), while the female track athlete and ideal woman concepts were sig at the .01 level. Athletes perceived the concept of male basketball player more favorably than did nonathletes ($p<.05$). Female athletes perceived the concept of female basketball player more favorably than did the male athletes, male nonathletes, and female nonathletes. The data were graphically represented, through the use of profiles, to illustrate the scale means calculated from the Ss' responses toward each concept.

282. WEISS, Lawrence Wayne. Effect of heavy-resistance weight lifting on serum levels of testosterone and androstenedione in adult men and women. Ed.D. in Physical Education, 1979. 101 p. (E.L. Bundschuh)

Serum levels of testosterone and androstenedione were determined by radioimmunoassay before and after a single bout of heavy-resistance weight lifting in men and women. Testosterone and anrostenedione concentrations at each of 4 time periods after exercise and the $\overline{X}$ of 2 concentrations measured before exercise were compared with each other for both men (N=20) and women (N=20). Statistical analyses were completed separately for testosterone and androstenedione using a 2-factor, mixed design ANOVA. It was found that testosterone levels were greater in men than in women ($p<0.0001$); subsequent to weight lifting, both sexes evidenced testosterone levels which sig ($p < 0.001$) changed over time; a sig interaction ($p < 0.0001$) indicated that men and women responded to weight lifting differently over time. For androstenedione, results showed women's levels higher than men's ($p < 0.001$); both sexes responded to weight lifting with levels which sig changed over time ($p < 0.00001$); and nonsig interaction indicated that men and women responded to exercise similarly over time. It was concluded that a sex diff exists in the testosterone level response to weight lifting with adult males having a much greater response. It was also concluded that the androstenedione level response to weight lifting is similar in adult males and females

UNIVERSITY OF IDAHO (D. Zakrajsek)
MOSCOW, IDAHO

283. BLUNDEL, N.L. Aspiration level and its relationship to intelligence, gender and motor skill performance. M.S. in Physical Education, 1979. 56 p. (A.W. McNeill)
Ss for the study were 105 Australian children aged 12-14 yrs (54 boys and 51 girls). The Ss were instructed in 4 field hockey skills: shuttle run, dribbling course, hit for distance and accuracy and push for distance and accuracy. Ss estimated future level of attainment following 2 trials in each of the skills to be evaluated. The study was conducted over a period of 8 wks with data analyzed using χ^2 and the Mann-Whitney U test. The results of the study indicated that there was no sig relationship between intelligence and aspiration level and motor skill attainment. There were sig diff among the aspiration levels and skill levels of the boys and the girls. There was a sig diff relative to the latter variables for boys and girls of similar intelligence. No sig diff was found according to gender in realistic estimation of aspiration levels.

284. STANEK, F. J. Comparison among levels of field dependence/field independence of selected college football players. M.S. in Physical Education, 1979, 36 p. (A.W. McNeill)
Different levels of field dependence/field independence were found among football players when they were classified according to position on a college football team. 30 male Ss (age 19-23 yrs) were used for the investigation. ANOVA was used to compare scores from Witkin's embedded figure test for quarterbacks and defensive backs, running backs and wide receivers, and offensive and defensive linemen using ANOVA. Sig diff

were established ($p < .05$) among the quarterbacks and defensive backs and the other two groups used in the study; however, no diff was established for the EFT scores of the running backs and wide receivers, and the offensive and defensive backs.

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN, ILLINOIS

285. ALLEN, Jae Lynn. Effects of conditioning on vertical jumping height and power of prospective female intercollegiate basketball players. M.S. in Physical Education, 1979. 126 p. (M. Slaughter)

2 methods of conditioning were compared upon the vertical jumping (VJ) height and VJ power of prospective female intercollegiate basketball players. In addition, 2 tests of leg power were compared; a bicycle ergometer test, which had been used previously, and a new VJ test of leg power. 14 female Caucasian University of Illinois students undertook either wt lifting or jumping exercises designed to improve VJ ht and power in addition to a pre-season basketball conditioning program. Conditioning took place 3 days/wk for 7 wks. 7 other Ss served as a control. Selected anthropometric dimensions, maximal VJ ht, VJ power and leg power as measured on a bicycle ergometer were collected twice before and after conditioning. Neither the jumping nor wt training exercises produced increases in jumping ht or power ($p > .05$). The test of consecutive VJ's and the bicycle ergometer test yielded comparable measurements of leg power, although the reliability and reproducibility of the tests were questionable. Both series of exercises produced sig losses of % fat when accompanied by the pre-season conditioning program.

286. BUTLER, Pamela C. Effects of a localized exercise program on skinfold and girth measures of adult women. M.S. in Physical Education, 1979. 75 p. (R. Boileau)

A review of the literature from 1940 to the present investigating the effects of localized "spot reducing" exercises indicated that the issue continues to be controversial. Ss were 23 women (20-46 yrs) volunteers. 12 women were assigned to the exp group while 11 women served as sedentary control Ss. The exp Ss exercised 3 days/wk approximately 30 min per session for 8 wks. Exercises were specific to the upper arm, waist, hip and thigh, and consisted of a variety of types including isotonic and isometric strength and localized muscular endurance regimes and flexibility exercises. Number of repetitions and the degree of difficulty increased throughout the program. Pre and posttest body wt, skinfold thickness and body girth measurements were taken. All Ss' weight fluctuations remained within 5%. Statistical techniques included dependent and independent *t*-tests and ANCOVA. There was a sig initial diff between groups at the abdominal skinfold site. Analysis of mean changes indicated that there were no sig diff due to the exercise program for any of the 10 exp variables.

287. CAMPBELL, KEVIN R. *A kinematic analysis of the take-off phase in ski jumping*. M.S. in Physical Education, 1979. 121 p. (C. Dillman)
A comparative analysis was performed to examine diffs in technique as exhibited by world class US ski jumpers and Elite International jumpers. A total of 15 ski jumpers competing in the 1979 Pre-Olympic Games 70 m jump served as Ss. High speed cinematography was used to obtain continuous displacement measures of the center of gravity (CG) and segmental positions. These data were treated with a cubic spline and finite diff techniques to obtain continuous velocity and acceleration functions. Results indicated that max normal acceleration ($r = .61$), max normal velocity ($r = .64$), normal velocity at take-off ($r = .63$) and direction of motion at take-off were highly related to distance jumped. It was also found that the absolute angle of the lower leg and the distance of the CG in front of the base of support were related to performance. Sig diff were found between the US jumpers and the Elite International ski jumpers. These diffs were observed for: the normal velocity at take-off, lower leg angle, angular velocity at the knee and hip joints, and the ankle CG distance.

288. CARLTON, Leslie Gene. *The role of vision for the control of aiming movements*. Ph.D. in Physical Education, 1979. (K. Newell)
4 experiments were conducted examining the role of vision and the control processes used in the production of aiming responses. Experiment 1 examined the effects of withdrawing visual feedback information from the initial portion of aiming responses. The results indicated that withdrawing visual feedback of up to 50% of the initial portion of responses had little effect on movement outcomes. The vision manipulation paradigm employed in Experiment 1 was combined with high speed cinematography techniques in Experiment 2 which examined visual processing time for the control of movements. Examination of movement patterns suggested that the time to process visual

error information is approximately 135 msec. Experiment 3 and 4 investigated the movement patterns produced in the completion of aiming responses. Kinematic parameters obtained from these movements revealed that discrete, reciprocal transfer and peg transfer responses are characterized by discrete response corrections with multiple corrections occurring under high index of difficulty conditions. These findings support the contention that the time to process visual error information for the control of movements is shorter than previous estimates of 250 to 300 msec. The results also support a discrete visual processing model as a qualitative interpretation of Fitts' Law.

289. CROISANT, Phyllis. T. Effect of pedal rate, brake load, and workrate on metabolic responses during bicycle ergometer work and recovery. Ph.D. in Physical Education, 1979. (R. Boileau)

9 men (18 to 28 yrs) performed a series of 25 tests on a Monark bicycle ergometer utilizing pedal rates of 20, 40, 60, 80, and 100 RPM with brake loads of 0, 1, 2, 3, and 4 kp at each pedal rate. Statistical analysis revealed that the energy expenditure during bicycle ergometer work, measured either as steady-rate V_{O_2} or as net O_2 cost (including recovery), is a quadratic function of pedal rate when brake load is held constant and is a quadratic function of brake load when pedal rate is held constant. Furthermore, there is a sig interaction between the effects of rate and load on energy expenditure, which results in a shifting of the "most efficient" pedal rate and brake load combination as the level of work output changes. Sig diff (10-29%) were found between rate-load combinations at a constant power, indicating that a moderate rate-load combination is more efficient than combinations using high rate and light load or slow rate and heavy load. Estimates of energy cost using steady-rate V_{O_2} were highly correlated with net O_2 cost (R=.997) since the discrepancies between recovery O_2 and O_2 deficit were small for the workrates tested. Other metabolic variables such as HR, VE, RQ, and recovery VO_2 all exhibited a curvilinear relationship with both pedal rate and brake load with a sig interaction also present. It was concluded that the energy cost of bicycle ergometer work is not linearly related to the work output as traditionally stated, but rather depends on the rate and force with which the work is accomplished.

290. DUNETTS, Michael J. A biomechanical analysis of overstriding in running. M.S. in Physical Education. 1979, 61 p. (C. Dillman)

The purpose of this study was to investigate the change in touchdown distance with horizontal velocity, and to ascertain whether the ratio of stride length to leg length could be used to indicate overstriding. The running styles of 66 highly skilled athletes were filmed and analyzed. 18 athletes took part in sprint events, 34 in middle distance events, and 14 in long distance events. A quantitative analysis of the films involved the following parameters: touchdown distance relative to the hip, stride length, leg length, stride length/leg length ratio, horizontal velocity. Group norms were computed for 6 velocity groups: 5.5-6.5 m/s, 6.5-7.5 m/s, 7.5-8.5 m/s, 8.5-9.5 m/s, 9.5-10.5 m/s, 10.5-11.5 m/s. R and ANOVA were used to indicate the sig of the changes in running parameters with horizontal velocity. The results indicated during running, the foot first contacted the ground ahead of the hip. This distance tended to decrease as velocity was increased, but even at max velocity the foot was still ahead of the hip at touchdown. Touchdown distance was related to leg length at high velocities only. The stride length/leg length ratio could not be used to indicate overstriding. Only cinematographical techniques could be used to determine overstriding.

291. ENGLEHORN, Richard D. Motor control modifications related to skill acquisition. Ph.D. in Physical Education, 1979, 150 p. (M. Souder)

Electromyographic (EMG) variables were used to investigate the effects of learning and visual feedback on the motor control process. 16 female college age Ss performed on elbow flexion task under 2 movement conditions, positioning and coincidence, and 2 speed conditions, 40° and 200° per sec. The motor control parameters assessed were the temporal variations in the EMG activity curve, the motor unit recruitment process, and the long latency reflex error correction response. The EMG activity data were quantified using the root mean square procedure and a spectral analysis procedure was used to determine the frequency components of the EMG signal. A perturbation was introduced at random on 1/4 of the 126 trials to elicit error correction responses. Shifts with learning in the EMG activity pattern toward the movement start were observed with the fast movement condition. The evaluation of EMG activity changes in conjunction with the EMG frequency spectra indicated a modification in the recruitment process with learning. Larger phasic motor units appeared to contribute more to motor control after learning. Reflex error correction latencies as measured from the EMG record increased over learning, reflecting the use of a more complex response requiring greater central processing. The presence of visual feedback interacted with learning and resulted in the maintenance of a similar recruitment pattern over learning. The variations in each of the 3 parameters suggested a greater contribution of central motor control processes with the learning of the movement tasks.

292. HOSHIZAKI, Thomas Blaine. Interrelationships of musular endurance among specific muscle groups for continuous and intermittent static contraction in men. Ph.D. in Physical Education, 1979. (R. Boileau)

Static contraction endurance characteristics of 5 muscle groups, hand flexors, forearm extensors, forearm flexors, plantar flexors and plantar extensors, were investigated in a group of normal, healthy college-age men (N = 38). 2 max contraction endurance tasks, continuous contraction and intermittent contraction (3 sec contraction, 3 sec rest), each totaling 63 sec of contraction were investigated. 4 parameters were examined, max force production (strength), max force output summated over the 63 sec period of effort (TWO), % total force output (%TW), and % final contraction (%FC). The first 2 indicated the raw force production capabilities of the muscle groups both for an instant of peak achievement and over time (impulse). The latter 2 indicated endurance capacity with strength taken into account. Analysis of the data indicated that max force production (strength) in selected muscle groups is well correlated with force production of the muscle groups within an extremity and more closely related than between extremities. Configuration of the endurance curves for all muscle groups with both continuous and intermittent contractions was quite variable, there being 1 and 2 component patterns and sig interaction. Not only was there an absence of commonality between muscle groups, but within each muscle group, except for the plantar flexors, the continuous and intermittent contraction curves differed sig, with the latter exhibiting less decrement in force production toward termination of the task.

293. INDIA, Daniel M. A mechanical analysis of female world class cross-country skiers performing the diagonal stride on a flat terrain. M.S. in Physical Education, 1979. 88 p. (C. Dillman)

The purpose of this investigation was to quantitatively describe and analyze, through biomechanical and statistical methods, the performance characteristics employed by female world class cross-country skiers during the diagonal stride on a flat terrain. Ss were 22 female world class cross-country skiers who were photographed during the Pre-Olympic Cross-Country Skiing Championships at Lake Placid, New York, Data analysis consisted of the quantification of temporal, kinematic, various body angles and performance variables associated with cross-country skiing. The data revealed a $\bar{X}$ stride rate of 1.80 steps per sec and a $\bar{X}$ stride length of 2.36 m, ($\bar{X}$ velocity = 4.25 m/sec). An r of .72 was found for stride length and stride rate: .86 between stride length and velocity; -.81 for stride length and performance time: and -.83 between velocity and performance time. A comparative analysis between the top and bottom 7 finishers revealed a mean velocity of 4.54 (m/sec) and 3.97 (m/sec), a stride length of 2.54 (m) and 2.12 (m) and a stride rate of 1.79 (st/sec) and 1.87 (st/sec) for elite and good cross-country skiers. The angle of the trunk was statistically related to velocity, stride length and performance time. Relationships indicated that a smaller angle of the trunk produces a longer stride, which increases velocity and decreases performance time. The diff in the stride length between elite and good skiers is produced by a greater distance traveled during the poling and glide phases. In general, skiing velocity is dependent upon body positioning, coordination of movements and stride length attained.

294. KUEHL, William A. A comparison of treadmill and over-ground walking of college age women. M.S. in Physical Education, 1979. 75 p. (C. Dillman)

Movements about the hip and knee and muscular activity of the knee flexors, knee extensors, ankle dorsiflexors and ankle plantarflexors were investigated for the duration of the walking cycle by means of high speed cinematography and electromyography. Ss were 8 college age women, 4 of whom were selected for analysis based upon similarity of velocities between conditions. Filming took place utilizing a Locam camera at 140 fps, shutter factor 2.4, an f/stop of between 1.7 and 8 depending upon the film session and a camera distance of 30 ft from the S plane. EMG action potentials were reproduced on a Hewlett-Packard 4 channel pen recorder, and surface electrodes were used. Time of support and non-support, stride diffs by phase, the effect of treadmill walking skill on performance and diffs in translatory velocity were compared between conditions. Translatory velocity was found to be similar between conditions, as were angular thigh and shank displacements and velocities both within and between conditions. EMG activity did not differ appreciably from those results found in previous studies in the literature. Within the limitations of this study, no differences were found between the gait patterns of the 2 conditions.

295. MARTIN, Philip E. Multiple regression analysis of the diagonal stride of cross-country skiing on uphill terrain. M.S. in Physical Education, 1979. 79 p. (C. Dillman)
High speed cinematography was used to study the diagonal striding technique of cross-country skiing on uphill terrain. The fundamentals of the diagonal stride were quantified in terms of mechanical variables for 33 highly skilled male cross-country skiers. Multiple linear regression models were then developed relating these mechanical variables to selected performance criteria. Initially, stride length, stride rate, and stride velocity served as criterion variables. Based on the results of these analyses, several secondary models were developed in which the sig predictors of these 3 variables were used as criteria. Results of the regression analyses indicated that stride length, stride rate, and stride velocity were highly predictable in this sample. Cross validation analysis of the developed regression models indicated that they were also highly predictable in other samples of the same population. The results suggested that a high stride length is more important to optimal performance on uphills than a high stride rate. The results of the secondary models suggested adjustments in technique which would result in improved performance.

296. McKEOWN, B.C. Relative contributions of selected structural and functional factors to physical work capacity: a comparison of arm and leg ergometry. Ph.D. in Physical Education, 1979. 241 p. (R.A. Boileau)
The following 3 questions were considered: What are the absolute and relative diffs between the arms and legs?; What are the relative influences of the selected structural measures in the PWC assessment of arm or leg work?; and, Does VO_2 max contribute additional information to estimating arm or leg PWC beyond that attributed to structural variation? Male volunteers (N=26, ages 18-25) were measured for body size (ht, wt, %BF, limb circumferences and lengths), circulorespiratory capacity (VO_2 max and HR) and PWC (kpm). Testing sessions (4 for arms and 4 for legs) were as follows: continuous, load-incremented PWC on the BE; continuous, load-incremented PWC on the BE commencing at the load prior to the terminal load in Test 1; constant load PWC; and one retest. Sig diffs ($p < .01$) between the arms and legs were found to exist for volume, VO_2 and PWC.

The diff in VO_2 max and PWC was reduced when these measures were expressed relative to limb volume (LV). In fact, the arm VO_2 max was sig greater than leg when expressed relative to lean LV. Arm PWC per fat-free LV (FFLV) during the constant load test was also sig greater than leg PWC with approximately equal values during the incremented load test. The addition of LV to structure accounted for little variation in either arm or leg PWC. VO_2 max (l/min) contributed sig to structure when estimating leg PWC. However, when leg PWC was estimated with VO_2 max (ml/min·L FFV), leg LV was the greatest contributor. For arm PWC, VO_2 max (l/min) and deltoid tuberosity circumference were approximately equal contributors. Deltoid tuberosity circumference was the greatest contributor to arm PWC with the VO_2 max (ml/min· L FFV) expression.

297. MILBURN, Peter D. A kinematic analysis of the triple jump. M.S. in Physical Education, 1979. 111 p. (C. Dillman)

The study sought to ascertain, by means of high-speed cinematography, the kinematic factors that influence performance in the triple jump. Film data were obtained for the 3 support phases of the triple jump from initial touchdown from the approach to take-off to the final jump. Sixteen trials representing 11 male athletes competing in the 1975 US Track and Field Federation Invitational Indoor Meet at Urbana-Champaign, Illinois were selected for analysis. All trials were filmed by 2 cameras which overlapped to encompass the complete movement. A computer program determined horizontal and vertical displacements and velocities of a point on the iliac crest superior to the hip joint. S categorization into 3 skill levels was conducted prior to the analysis of the output data. The following conclusions were made with respect to factors which contribute to max distance and the successful execution of the triple jump. A slower, more controlled approach velocity should be used in the long jump. During the first support phase, there should be less emphasis on gaining ht and greater emphasis on the generation of forward speed prior to take-off to the hop. The most critical phase of the triple jump performance was during the 2nd support phase. The degree of success of the total performance was dependent on the S's ability to rebound on landing from the hop with the least loss of forward speed. The highly skilled athlete seemed to land and take off with a lower body position in all 3 support phases which seemed to be one of the critical aspects in obtaining longer distances. A breaking effect on landing appeared not to be a consequence of diff in performance level. The ideal % ratios for a jump in excess of 15 meters was 36:31:33.

298. MILCHRIST, Pamela A. Movement, imagery, and children's semantic memory of social studies concepts. Ph.D. in Physical Education, 1979 253 p. (M. Thompson)
Ss were 96 3rd grade boys and girls who participated in an integrated PE and social studies program that utilized combined imagery and movement experiences to create a meaningful learning environment. The treatment extended over 4 wks. The data which were collected from each S over an 8 day testing period were analyzed with a repeated measures ANOVA. It was found that the children's semantic memory of social studies concepts was enhanced by combined movement and imagery experiences without a resultant deleterious effect on their movement pattern performance.

299. MOORE, Michael T. An analysis of the competitive attitude and the use of point systems in men's undergraduate fraternity intramural athletics at the University of Illinois at Urbana-Champaign. M.S. in Physical Education, 1979. 86 p. (D. Matthews)
Members of 16 selected fraternities were questioned concerning their views on competition, intramural athletics, and the use of point systems. This, accompanied by literary research and examples of current levels of usage by college and universities, served to answer the main problem as to whether the point system was necessary at the U of Illinois. From the literature research, it was found that most university intramural programs employ a form of point system - each specified to its own particular program. Data from the 27 questions were analyzed by use of both averages and chi-square ($p < .05$). However, based on the responses of members of both large and small, and successful and unsuccessful fraternities, it was concluded that the use of point systems and awards was not necessary based on the status of the intramural program as it currently exists.

300. NABIL, Philip A. The emergence and arrival of the Afro-American in the national game: his participation in sport in general and baseball in particular as a positive mechanism for socio-economic mobility in American society. M.S. in Physical Education, 1979. 124 p. (G. Luschen)
The purpose of the study was threefold. First, to trace and determine the role of the black man in the development of organized baseball and examine baseball as an index to national

character. Second, to investigate if Afro American major-league baseball players implicitly direct their ambitions as youngsters primarily toward a competitive sport career, particularly organized baseball. And finally, to establish whether sport participation in general and organized baseball involvement in particular serve as a positive mechanism for facilitating upward socioeconomic mobility in the case of the Afro-American male. The first problem was examined using a socio-historical and secondary-semisecondary analyses; an interview schedule was constructed and employed for problems 2 and 3. The respondents were Afro-American major-league ballplayers (N=24) selected from 10 National League baseball teams during the 1974 season. Based on the specific findings of the study, it was concluded that the contributory role and impact of Afro-Americans in the history of baseball is undeniable. Moreover, the game of baseball is uniquely American and reflects, reaffirms, and reinforces prevailing cultural values and customs. Afro-American major-league baseball players implicitly direct their ambitions to the pursuit of excellence in competitive sport; and sports participation serves as a positive mechanism effecting sig opportunities for upward socio-economic mobility.

301. NEWPORT, Sandra A. Blood hemoglobin and its relationship to physical training in female college athletes. M.S. in Physical Education, 1979. 83 p. (R. Boileau)

24 college women participated in a study to determine the effects of a preseason training program on the hemoglobin and hematocrit levels of athletes. The athletes (N=14) were members of the women's varsity swim team at the U of Illinois. Training was controlled by the women's swimming coach and consisted of pool workouts 5 days/wk and wts 3 days/wk. The control group (N=10) did not participate in any regular exercise program. All Ss reported for data collection each of the 8 wks at an assigned time between 7 - 10 a.m. Hemoglobin, hematocrit, and weight were measured. Blood hemoglobin content was determined by spectrophotometric analysis using a cyanmethemoglobin reagent to stabilize the iron. Hematocrit was determined by a scale in the Clay-Adams Readacrit Centrifuge. ANOVA revealed no sig effect of training on hemoglobin and hemotocrit. The only sig diff was between trials for all Ss (N=24). Regression analysis indicated a slight but sig effect of menstrual cycle on hemoglobin and hematocrit.

302. NICHOLSON, Connie S. A study of socialization and sport participation for early adolescent females. M.S. in Physical Education. 1978. 114 p. (G. Lueschen)
A sociological study was conducted on 8th and 9th grade females (F) to determine the socialization process influencing participation or nonparticipation in sport. The findings indicated that F involved in formal sport here highly encouraged by family, peers, and coaches. F sport participants came from families presently having more participation in sport that the nonparticipants, and participants had peers also participating in sport, while nonparticipants generally did not. Data on acceptance of "appropriate" and "inappropriate" sports for Fs revealed that the F athletes and nonathletes were similar in their choices of traditionally desired and undesired sports. When considering male sport heroes as role models, participants and nonparticipants predominately had male sport heroes. A diff was found in the extent of having a sport hero, with F athletes more likely to have a sport hero than nonathletes. Athletes and nonathletes were similar in measures of happiness. Athletes displayed sig more masculine characteristics. Lastly, female participation in sport was equally accepted in both rural and urban social settings.

303. PELLEGRINI, Ana Maria. Visual cues for movement initiation in the acquisition of catching skill. M.S. in Physical Education, 1979. 85 p. (J. Teeple)
59 boys and girls (6-11 yrs) participated in a study as to the extent to which visual cues for movement initiation facilitates the acquisition of the catching skill. A ball throwing machine was used to project the balls in a consistent trajectory to the S's left or right side. Of the 40 trials, the 8 initial and the 8 final were performed without visual cues. The 24 intervening trials varied with the presence of visual cues earlier or later in the ball flight for 2 exp groups and in the absence of visual cues for the control group. The type of performance was assigned a 0 point value for miss, 1 point for touch and 2 points for catch. ANOVA for the mean performance scores and starting time and for the proportions of the type of performance scores and starting time and for the proportions of the type of performance were computed. Visual cues facilitated learning of the skill for the youngest age group when the cues were placed later in the ball flight. The diff in performance between the youngest and the middle age group corresponded to a decrease in missed balls. Successful performance increased significantly from the youngest to the oldest age group.

304. SMILEY, Ann L. The relationship of intersensory processing to sensorimotor performance. M.S. in Physical Education, 1979. 107 p. (J. Teeple)

Ss were 71 students (6-12 yrs). In one sensorimotor condition (immediate-response) information retention was de-emphasized by allowing an immediate sensorimotor response while the other condition (delayed-response condition) emphasized information retention by requiring a 10 sec delay between the stimulus presentation and the sensorimotor response. Both the sensory processing tests and the sensorimotor test included temporal patterns as the stimulus presented. Results from ANOVA indicated that the intersensory processing test was more difficult than the intrasensory processing. Regression analysis using age, sex, intrasensory performance and intersensory performance to predict performance on the immediate-response and delayed-response sensorimotor conditions showed that intrasensory performance rather than intersensory performance predicted the performance on the delayed-response sensorimotor condition.

305. SPITZER, Terry-Ann, The effect of various warm-down work levels on blood lactate reduction in three females. 1979, 104 p. (R. Boileau)

It is generally accepted that aerobic exercise after a strenuous effort enhances recovery; however the amount of aerobic exercise needed to produce optimal effects has been under question. The purpose of this study was to assess the effect of various metabolic work levels of physical activity in blood lactate removal during recovery from near max work on the bicycle ergometer and treadmill. The reduction velocity of the blood lactic acid (LA) was tested in 3 females working at 3 set metabolic recovery levels on both the bicycle ergometer and treadmill. The tests began with a 5 min rest followed by bouts of measured intermittent work to voluntary termination. Ss then recovered for 20 min at 1 of 3 set workloads approximating 25, 45, and 65% VO_2 max. One test was repeated on the bicycle ergometer and 1 on the treadmill by each S. Blood was sampled from a dry prewarmed fingertip at 5 min intervals while HR and metabolic measurements were recorded every other min during recovery. LA reduction velocity was determined by the slope of the line best fitting lactate concentrations at the 5 sampling points taken during recovery. The reduction velocity was then expressed as a function of the relative VO_2 work level, HR and mechanical work load for each S on both the treadmill and bicycle ergometer. It was found that optimal blood LA reduction on the ergomenter occurred at: 720 kpm/min; between 39.3% and 42.8% VO_2 max and between 115 and 139 bpm. LA reduction on the treadmill was optimal between 30.1 and 42.4% VO_2 max and between 104 and 146 bpm. LA reduction appeared to be independent of the mode of activity and the amount of involved muscle mass.

306. TORCHIA, Michael D. The effects of duration of low-intensity prior exercise on muscular and selected physiological measures during a high-intensity, steady-state criterion task. M.S. in Physical Education, 1979, 120 p. (R. Boileau)

The effects of 4 durations of low-intensity prior exercise (PX) on muscular efficiency, VO_2, HR, and rectal temperature (Tr) during a high-intensity steady-state criterion task (CT). Ss exercised on a bicycle ergometer at 40% of their respective peak oxygen consumption (VO_2) for 0, 15, 30, and 45 min. A criterion task consisting of cycling at 60% peak VO_2 was introduced immediately after prior exercise, allowing no rest. Gross, net, and delta efficiencies were computed for criterion exercise based upon caloric expenditures of steady-state VO_2 and caloric equivalents of external work performed. Heart rate, VO_2, and rectal temperature were recorded for the last 2 min of criterion exercise. Gross efficiencies for treatment PX-0 and PX-15 were sig higher than for treatment PX-30, and gross efficiency for treatment PX-15 was sig higher than for treatment PX-45. No sig diff were found among treatment means for the other dependent measures. Energy expenditures measured at 60% peak VO_2 appeared to account for the observed changes in the gross efficiency measure. It was concluded that gross efficiency during exercise at 60% peak VO_2 is significantly influenced by varying durations of prior exercise at 40% peak VO_2 (0, 15, 30, 45 min). It was also concluded that HR, VO_2, and Tr during exercise at 60% peak VO_2 are not sig influenced by the duration of prior exercise at 40% peak VO_2.

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307. CARTER, Charles L. Aortic blood flow velocity during exercise in man. Ph.D. in Physical Education, 1978. 205 p. (L.R. Amundsen)

The study sought to determine the relationship between exercise intensity and peak aortic flow velocity measured non-invasively and to determine reproducibility of responses at identical work loads. A doppler system was developed that was capable of resolving flow velocities in excess of 100 cm/sec for an exercise environment. Reproducibility of that system *in vitro* was demonstrated using both pulsatile and continuous flow in latex and silastic tubing of different diameters and elastic properties. 13 normal Ss pedaled a bicycle ergometer while positioned 30° from the horizontal at 20, 40, 60, and 80% of the individual max VO_2 of each S. The backscattered frequency spectra of both forward and reverse aortic flow from the suprasternal notch were recorded on an FM tape recorder. The spectra were processed by discrete spectral analysis to 70 mm film and then digitized by projection on a precision rear screen projector. 8 of the 13 parameters were linear with respect to % of VO_2. Only 2 parameters, acceleration and peak flow velocity, were reliable at all work levels. Acceleration increased 183% from resting value to 80% max VO_2 while peak flow velocity increased 71%. Both parameters correlated with % max workload with a R^2 of .85. The result indicated that blood flow velocity in the arch of the aorta increases with increasing work load. Both acceleration or the slope of the ascending velocity limb and the peak flow velocity are linearly related to % of max aerobic power. These two measures are reproducible even at relatively high work loads. The findings clearly suggest the use of graded exercise aortic flow velocity measurements as a clinical tool.

308. DAPENA, Jesus. *A simulation method for predicting the effects of modification in human airborne movements*. Ph.D. in Physical Education, 1979. 230 p. (J.G. Andrews and L.E. Alley)

Many sports activities involve relatively prolonged periods of time during which the body is airborne. The outcome and/or the mode of execution of the airborne phase may have a bearing on the value of the performance. The purpose of this study was to link a 3-D analysis of actual human body motions under free-fall conditions, with the prediction of kinematic behavior modified by diverse prescribed alterations. The prescribed alterations consisted of selected perturbations of the configuration history of body segments relative to the upper trunk during the airborne phase. The method was divided into two stages. Stage 1 included filming of the sports activity, analysis of films, and computation of the 3-D coordinates of the segment endpoints. These data, together with the inertial parameters of the segments, were used to compute the initial orientation of the upper trunk in an external reference frame (RA), the successive orientations of the segments relative to the upper trunk (reference segment), several anthropometric lengths, the path of the c.m. of the S, and the angular momentum of the body about the c.m. The output from Stage 1 was used as input for Stage 2. Stage 2 included the calculation of the altered kinematic behavior of the mechanical system in RA. For this, the initial orientation of the upper trunk relative to the fixed external reference frame and of the segments relative to the upper trunk, anthropometric data, the inertial parameters of the segments, the angular momentum of the body about the c.m., the path of the c.m. and the time-dependent pattern of subsequent orientations, relative to the upper trunk, were used. Error in the method was reflected in 2 ways: translation error, i.e., error in the location of the c.m. of the whole body, and rotation error, i.e., error in the rotation of the upper trunk. The mean translation error was 2.6 cm. and 2.7 cm. in 2 separate cases; it was not dependent on the duration of the simulation. The rotation errors remained under 12° (somersault error) and under 28° (twist error) for approximately .6 to .8 sec after the start of the simulation. Beyond that time, rotation errors were unpredictable. Overall, the estimated period of validity of the method was approximately .6 to .8 sec. A brief study of the Fosbury-flop high jump was used to demonstrate the applicability of the method.

309. HINRICHS, Richard Neal. Principal axes and moments of inertia of the human body: an investigation of the stability of rotary motions. M.A. in Physical Education, 1978. 97 p. (J.G. Andrews)

A preliminary investigation into the stability of human body rotary motions was conducted. A generalized computational procedure was developed to completely determine the central inertial properties of the human body in any configuration, including the central principal moments and axes of inertia. This procedure, in conjunction with 3D cinematography, was used to determine inertial characteristics of a S throughout the performance of various somersaulting maneuvers on a trampoline, one of which included the airborn initiation of a twisting maneuver. The magnitudes of the central principal moments of inertia (PMIs) and the corresponding orientations of the 3 central principal axes of inertia (CPAIs) were closely examined during 3 basic gymnastic maneuvers. It was observed that in the execution of a backward somersault in the layout position, the S was rotating about the inherently unstable intermediate CPAI but was able to make small corrective movements that kept the angular velocity vector essentially parallel to the intermediate CPAI. In forward somersaults in the tuck and pike positions, the S was generally rotating about the inherently stable maximum CPAI. When tightly tucked, however, the intermediate and maximum CPMIs were very similar. Small changes in body configuration produce large changes in the orientations of the intermediate and maximum CPAIs, thus making the rotation relatively difficult to maintain.

310. KAMIYOLE, Theophilus O. Relationship between professional orientation and attitude toward supervision of physical education teachers in Nigerian school bureaucracies. Ph.D. in Physical Education, 1979, 174 p. (G.F. Hansen and L.E. Alley)

The primary purpose of this study was to determine the relationship between the professional-orientation of Nigerian PE teachers in Lagos city secondary schools, federal government colleges, advanced teachers colleges/colleges of education and the universities and the attitudes of these PE teachers toward the supervision of their work. A secondary purpose was to determine the relationship between the PE teachers' professional-orientation and each of the variables of age, degree held, teaching experience, reading of professional journals and number of supervisory visits; and the relationship between their attitudes toward supervision and the same variables. 250 questionnaires were mailed to coordinators in Nigeria who administered the questionnaires to 195 PE teachers. The questionnaire was divided into 3 parts. Part I, biographical data, Part II, the Professional-Orientation Scale and Part II, Attitude toward Supervision Scale. 119 of the 195 Ss (61%) returned the questionnaires. Among the findings were that the PE teachers had a low professional-orientation, but degree holders were higher than non degree holders. PE teachers had unfavorable attitudes toward supervision, with degree holders having more unfavorable attitudes toward supervision. There was no relationship between the professional-orientation scores and the attitude toward supervision scores of the respondents. This finding appeared not to support the theory that bureaucratic and professional principles of organization embodied within the same administrative structure create tensions (conflict) among the personnel working in the structure.

311. MEDEIRUS, John M. Investigation of neuronoal mechanisms underlying human locomotion: an EMG analysis. Ph.D. in Physical Education, 1978. 264 p. (G.A. Soderberg)

The precision with which the nervous system controls the onsets and durations of the EMG patterns within and between muscles during locomotion on a treadmill was investigated in 20 adults. Simultaneous EMG records were obtained from the gastrocnemius, tibialis anterior, biceps femoris and vastus medialis of the right leg. Footswitches recorded time of right and left heel and toe floor contact and separation. All Ss were tested at very slow, slow, free, fast and very fast velocities on the treadmill with and without wearing a weighted vest. 10 gait cycles were obtained for each S at each unloaded and loaded walking velocity. Considerable variation in the EMG onsets and burst durations existed for every subject at each walking velocity. It was concluded the wearing of a weighted vest appears to influence the excitability of sensory receptors in the lower extremities during locomotion; the within and between S variations for the onsets and EMG burst durations may represent normal human biological variation; the activity between pairs of muscles was relatively phase constant over a wide range of walking velocities and was not appreciably affected by load; the relationship between the duration of activity in one muscle and the onset of activity in another was less variable during faster walking velocities; in contrast to the biceps femoris and vastus medialis the data from the ankle antagonists support the theory that locomotion may be controlled by a flexor burst generator system; and 3 of the 4 muscles investigated support the theory that there is a tendency to maintain a constant phase relationship between heel strike and the onset of EMG activity.

312. WILSON, Barry D. Knee ligament length changes during walking. Ph.D. in Physical Education, 1978. 278 p. (J.G. Hay and J.G. Andrews)

During gait, the knee joint operates in a dual role permitting a wide range of motion and acting in a weight bearing capacity. Unlike the hip joint which relies largely on the shape of the articular surfaces to maintain the integrity of the joint, the knee joint is dependent on a number of stabilizing ligaments which hold the component bones together. Considerable controversy exists in the literature as to the function of the ligaments of the knee. A mathematic model was used to calculate ligament length. The structures considered in the model were the femur, tibia, fibula, cruciate and collateral ligaments, and medial, lateral and posterior capsule. In some cases a single ligament was considered to consist of more than one functional component. Each functional component was treated as a separate ligament element having its own distinct attachment sites. The length of each ligament element was considered to be the distance between its attachment sites. A number of procedural steps were required in each phase of the study. In Phase 1, the ligament attachment sites were identified during dissection of 10 knee specimens. In Phase 2, two frames were clamped on the femur and tibia to serve as the supporting structures for light-emitting diode triads which defined external axial systems (EASs) with reference to the femur and tibia. In Phase 3, the 3D coordinates of the ligament attachment sites for the subject were predicted. Ligament length was calculated, typically, to within 1.2 cm. Ligament velocity was calculated typically to within ±11cm/sec. The ligaments were generally at or near their maximum lengths preceding toe-off (TO) and at full knee extension preceding heel-strike (HS). Max and min ligament velocities did not occur when the ligaments were within 5% of their max lengths. It was concluded that the anterior medial collateral ligament (AMC) and posterior medial collateral ligament (PMC) acted as one functional component during the range of movement of gait. AMC, the deep medial collateral ligament and PMC constrain knee joint motion prior to TO and the lateral collateral ligaments appear to limit the motion at HS and possibly throughout gait. The anterior and posterior sections of the anterior cruciate ligament and the posterior cruciate ligament acted as single functional units during gait. The medial posterior capsule was at its maximum length prior to TO and thus would tend to limit this range of movement, while the lateral posterior capsule was possibly strained throughout the gait. In general, ligament strain rate need not be considered when stresses in the ligaments are calculated from ligament strains during gait.

313. WILSON, Neola C.E. Effect of exercising rats during pregnancy. Ph.D. in Physical Education, 1978. 155 p. (C.V. Gisolfi)

The primary purpose of this investigation was to study the effect of exercise during pregnancy on selected functions of the cardiovascular system in the offspring, and elucidate the mechanisms underlying the observed changes. The secondary purpose was to study the effect of training during pregnancy on the mother. 40 day old female rats were randomly assigned to 1 of 4 groups: trained-nontrained (T-NT) animals ran at 35 m/min for one hr, 6 days/wk for 7 wks prior to pregnancy, but did not exercise during pregnancy; trained-trained (T-T) animals ran at 35 m/min for 1 hr, 6 days/wk prior to pregnancy and 32 m/min for 1 hr 7 days/wk during pregnancy; control (C) animals did not exercise either before or during pregnancy; nontrained-trained (NT-T) animals trained at 16 m/min for 1 hr 7 days/wk during pregnancy. Between the age of 95-110 days the females were placed with males for a period of 13 days. Max VO_2 and soleus muscle cytochrome oxidase activity were determined both prior to and following pregnancy. To assess the effects of maternal exercise during pregnancy on 45-65 day old offspring, maximum oxygen uptake, myocardial blood flow, myocardial fiber area, myocardial capillary density, myocardial fiber/capillary density ratio, organ weights and body length were determined. ANOVA, Tukey's test and chi square or Ridit Analysis were used to analyze the data. It was concluded that mild or heavy maternal exercise did not influence the offspring with respect to innate maximal oxygen uptake, myocardial circulation in response to stress, or cardiac sturcture. High intensity exercise using a shock-avoidance contingency during pregnancy is associated with an increase in offspring mortality during weaning. Females who trained at a high intensity (80-88% max aerobic performance) during pregnancy demonstrated a higher aerobic capacity than females who did not exercise or exercised at a lower intensity.

UNIVERSITY OF KANSAS (J.L. Pyfer)
LAWRENCE, KANSAS

314. ADAM, K.R. The relationship of coaching and teaching experience to success of coaches of six sports teams in post season championships. M.S. in Education, 1979. 75 p. (W. Osness)

315. ANDERSON, T. Cinematographical analysis of the vertical jump of mentally retarded compared to normal children. M.A. in Education, 1979. 124 p. (J.L. Pyfer)

316. ALFINO, A.M. A comparison of special education and regular students' demands on school nursing time. M.S. in Education, 1979. 66 p. (J.L. Pyfer)

317. BROXTERMAN, J.K. A study of the significance of visual training in the treatment of reading disabilities. M.S. in Education, 1979. 175 p. (J.L. Pyfer)

318. CONNER, L.L. Perceptual-motor dysfunction and cognitive style. M.S. in Education, 1979. 75 p. (J.L. Pyfer)

319. DeNOON, W.M. A study of adapted physical education programs in public schools in the state of Kansas. M.S. in Education, 1979. 76 p. (J.L. Pyfer)

320. DONOVITZ, J. Comparison of personalities of eighth and ninth grade female athletes and eighth and ninth grade female nonathletes. M.S. in Education, 1979. 102 p. (J.L. Pyfer)

321. GOFF, K.L. A comparison of gross muscle strength of children attending the perceptual motor clinic at Kansas University and a population of children attending normal classrooms. M.S. in Education, 1979. 77 p. (J.L. Pyfer)

322. GRAHAM, D.R. The effects of exercise on the urinary excretions of proteins, myoglobulin, and red blood cells in males. M.S. in Education, 1979. 130 p. (T.R. Thomas)

323. HACKETT, K.T. Effect of protein supplementation to the diet of college football players on strength development, muscle girth, body weight, and anthropometric skinfold measurements. M.S. in Education, 1979. 76 p. (T.R. Thomas)

324. HEASTON M.T. Recreation interest inventory of the University of Kansas Medical Center. (M.S. in Education, 1979. 160 p (D.K. Eiken)

325. LUNDSTROM, J.L. A study of the interscholastic volleyball programs in the class Six-A high schools in the state of Kansas. M.S. in Education, 1979. 160 p. (L.M. Mawson)

326. McLAUGHLIN, E. Follow-up study on children remediated for perceptual-motor dysfunction at the University of Kansas perceptual-motor clinic. M.S. in Education, 1979. 83 p. (J.L. Pyfer)

327. MADDEN, P.A. A measurement of standing balance in normal children M.S. in Education, 1979. 89 p. (J.L. Pyfer)

328. NOBLES, L.B. The effects of vestibular stimulation of congenitally blind adults. M.S. Education, 1979. 100 p. (J.L. Pyfer)

329. RIORDAN, K.D. A study of the effects of ball color on the catching skills of three, four, and five-year-old children. M.S. in Education, 1979. 101 p. (L. Greene)

330. YEATER, J.A. A comparison of the personality traits of women non-participants and participants at two different skill levels in the sport of basketball. M.S. in Education, 1979. 74 p. (L.M. Mawson)

331. ZIGELER, K.A.R. The effects of a movement education or a perceptual-motor approach in the first grade physical education program on three areas of perceptual-motor ability. M.S. in Education, 1979. 166 p. (J.L. Pyfer)

UNIVERSITY OF MISSOURI (J. Roberts)
COLUMBIA, MISSOURI

332. SPATH, William K. The role of maximal oxygen consumption, conditioning, and maximal steady state in determining the lactate removal rate and optimal recovery work intensity following strenuous exercise. Ph.D. in Physical Education, 1979. 151 p. (B.R. Londeree)

The influence of max VO_2, relative max steady state, current activity level and 5.5 mph HR on ability to recover from an intermittent max stress of short duration as measured by max rate of lactate removal, optimal relative recovery work intensity, and optimal absolute recovery work intensity was studied. The Ss were 26 male volunteers representing a wide range of activity levels. Canonical correlation analysis was utilized to determine the number and sig of the relationships between the first set of variables and the second set of variables. The statistical analysis indicated that the hereditary trait underlying the first sig canonical correlation consisted of max VO_2, current activity level, and max rate of lactate removal. The trait underlying the second canonical relationship, consisting of optimal relative recovery work intensity and relative max steady state, was labelled functional aerobic capability. Multiple regression analysis indicated that when predicting max rate of lactate removal, max VO_2 and current activity level contributed to the equation, but when the max increase in R^2 stepwise regression technique was utilized, max VO_2 was the only variable needed to predict max rate of lactate removal. For predicting optimal relative recovery work intensity, relative max steady state was the sole significantly contributing variable.

UNIVERSITY OF MONTANA (B.J. Sharkey)
MISSOULA, MONTANA

333. CONFESSORE, R.J. *Effects of long duration training on high density lipoprotein cholesterol and related serum lipids*. M.S. in Physical Education, 1979. 80 p.
(B.J. Sharkey)
26 middle-aged males and females were placed in 3 groups: high compliance long slow distance, sports (half court basketball and racketball), and low compliance active control, for 12 wks of training. The high compliance running group experienced a sig rise in HDL (11.4 mg/dl), but the other groups did not. Initial level of HDL was inversely related to change. It was concluded that long distance running had a sig effect on HDL cholesterol and the HDL/Cholesterol ratio. Half court basketball and beginning basketball lacked the duration or sustained intensity to sig alter HDL. The change in HDL due to running was associated with a 40% reduction in heart disease risk as calculated from the Fromingham data.

334. DiCARLO, C. *The effects of high and low carbohydrate diets on perceived energy levels of ski instructors at high altitude*. M.S. in Physical Education, 1979. 35 p.
(B.J. Sharkey)

335. JOHNSON, S.J. *A demographic study of volunteer coaches in the 1978 Missoula, Montana Little League baseball program*. M.S. in Physical Education, 1979. 67 p.
(J.L. Dayries)
A questionnaire developed by Martens and Gould was adapted for use in this study. Demographic data, including marital status, educational attainment, courses specific to coaching that were completed by the coach and the time spent coaching were considered. The Coaching Orientation Inventory (COI) was used to determine the coaches' orientations or reasons for coaching; the Coaching Outcome Scale (COS) was used to determine which of the 3 categories of winning, fun or socialization the coaches rated as most important in their programs; and the Sport Socialization Subscale (SSS) was used for determining the specific socialization categories of physical, psychological or social aspects of children's sport programs that the coaches considered most important. 70% of the coaches working in the 1978 Little League program in Missoula responded to the survey. Responses were coded into the SPSS computer format and computation of means, medians, modes, SDs and maximum and minimum values was completed for all relevant data. In addition, cross tabulations were performed on the COI, COS, and SSS using the demographic variables on no. of yrs coaching experience, education attainment and age group coached. It was determined that individuals

working in the program had, on the average, 13 yrs of education and 4 yrs coaching experience in the Little League organization. The coaches were found to place primary emphasis on the learning of basic skills of the game and upon development of rapport between coaches and players. Winning was least often cited as an objective of the program. While the grouping of coaches by demographic variables did not have an effect on the coaches' orientation, the grouping of coaches by demographic variables did have an effect on the perceived concerns and outcomes.

336. SIMPSON, A.C. Factors associated with high density lipoprotein cholesterol in adult males. M.S. in Physical Education, 1979. 51 p. (B. J. Sharkey)
Blood samples were collected from 53 male volunteer employees of the United States Forest Service and personal interviews were conducted to determine alcohol consumption, dietary saturated fat, and weekly energy expenditures from both total physical activity and intense activity (greater than 7 kilocalories per min). Skinfold measurements were taken and step tests were administered to 30 Ss to predict VO_2. Correlation coefficients were computed to assess associations. HDL cholesterol levels showed a highly sig positive association with intense physical activity ($r = .37$, $p < .01$) but not with total activity. Positive changes in HDL levels were demonstrated at 2,000 kilocalories per wk of intense activity. HDL levels showed a sig negative association with saturated fat in the diet ($r = .35$, $p < .05$) and with measures of body composition, including a sum of 4 skinfolds ($r = -.34$, $p < .05$). The contribution to HDL levels made by fatness was independent of activity and dietary saturated fat in this population. HDL cholesterol was not sig associated with alcohol consumption.

UNIVERSITY OF NEW ORLEANS (T. Smith)
NEW ORLEANS, LOUISIANA

337. LEW, Jane H. Differences of two levels of high intelligence quotients and performance of students on two motor tasks. M.Ed. in Physical Education, 1979, 47 p. (T.L. Smith)
48 SHS, 24 male and 24 female volunteers served as Ss. They comprised 4 groups: superior (IQ 120-129) boys; superior girls; very superior (IQ 140-149) boys; and very superior girls. 2 motor tasks, the stabilometer and the mirror tracer were used. Each S performed both tasks (a 9 trial bout for each task) during 1 scheduled testing time. The results of each task

were analyzed by a 2 (IQ) X 2 (Sex) ANOVA. Statistical analysis revealed that on the stabilometer very superior intelligent Ss performed significantly better than superior intelligent Ss ($p < .05$). There were no other sig diff in stabilometer performance. On the mirror tracing task there were no sig diff in performance. It was concluded that on balancing tasks, performance was significantly better for participants of very superior intelligence while differences in performance due to sex were uniform; on fine reversal hand-eye coordination tasks, performance was not affected by either high levels of intelligence or sex.

338. SENTILLES, Pamela K. *A comparison of an isokinetic off season weight program to an isotonic off season weight program in developing and maintaining strength fitness in the female athlete.* M.Ed. in Physical Education, 1979. 78 p. (B.L. Eason)

17 female intercollegiate volleyball and basketball athletes volunteered as Ss and were randomly assigned to either an isotonic or isokinetic group. Ss were pre and posttested by use of Clarke's cable strength tests. Both groups followed an 8 wk weight program, the isotonic group using a Universal Trainer and the isokinetic group a POWER machine. Exercise stations consisted of the bench press, lat pull, shoulder press, hamstring curl, and quadricep lift. Statistical analysis, which consisted of a two-tailed *t*-test and student *t*-test, revealed that isotonic training measures were superior to isokinetic procedures in developing or maintaining strength fitness in elbow flexion, shoulder flexion, and shoulder abduction ($p < .05$). There was sig improvement on the shoulder press, quadricep lift, and hamstring curl within the isokinetic group ($p < .05$) and sig improvement on the quadricep lift, hamstring curl, bench press, and lat pull for both groups ($p < .05$). Isotonic training procedures were concluded to be superior to isokinetic methods for maintaining and developing strength fitness in female athletes.

UNIVERSITY OF NORTH CAROLINA (P. Berlin)
GREENSBORO, NORTH CAROLINA

339. ABLE, L.V. *Collection for five.* MFA in Dance, 1978. 37 p. (L. Andreasen)

340. AXELSON, K.L. *Competition in elementary school physical education--a content analysis of selected textbooks*. M.S., 1979, 113 p. (K.R. Barrett)

341. BENTON, K.R. *The effectiveness of the myocardial infarction rehabilitation program in reducing readmission rates for second myocardial infarction, unstable angina, and congestive heart failure at Wesley Long Hospital*. M.Ed., 1979. 37 p. (T.M. Mommsen)

342. BERKSTRESSER, E. *Todesritual*. M.F.A. in Dance, 1979. 41 p. (L. Andreasen)

343. BOWEN, M.E. *Secondary ammenorrhea in selected distance runners*. M.S., 1979. 113 p. (S.M. Robinson)

344. BRIGHTMAN, D.L. *Alternative patterns and values of play, games, and sport in America*. Ed.D. in Physical Education, 1979. 157 p. (C. Ulrich)

This study investigated the changing characteristics, norms, values, and structures of play, games, and sport in the US as seen by dissenting individuals and subgroups during the years 1972-1977. Materials written by and about members of alternative subgroups, dissenting individuals, and other observers were reviewed. Expression of dissatisfaction with various modes of sport organization were identified. Critics suggested that more humanistic values, e.g., the worth and dignity of the individual, cooperative behaviors, should be encouraged in sport. In changing from traditional forms, new activities were recommended as additions to, and not substitutions for, existing sport and game activities. The present study found little indication of immediate or permanent change in sport. The activity of sport dissidents has abated and efforts to change institutionalized sport have diminished.

345. BROWN, J.P. *A description of student/teacher dyadic interactions in physical education activity classes*. Ed.D. in Physical Education, 1979. 163 p. (K. Barrett)

The study described the no., length, and type of dyadic student/teacher interactions in PE activity classes. The interactions were classified as content-related and noncontent-related. The interactions were related specifically to the sex of the teacher, the sex of the student, the status of the students as an athlete or nonathlete, and the teacher-perceived skill level of the student. The Brown Dyadic Interaction

Observation Tool was used to gather data in 5 classes of 6 male and 6 female teachers. The teachers then characterized each student in his/her class according to the characteristics of concern. Crossbreak analysis was used to show the relationship of the variables and from these the Chi Square statistic was applied. The following results were obtained: male students had more interaction time than females; the perceived high skilled student interacted more and for longer times than perceived average or low skilled; the student-athlete interacted more and longer than the nonathlete; male teachers interacted more, more about content, and more with the perceived high skilled than female teachers; and teachers interacted more with students of their own sex.

346. CHAPMAN, N.L. An investigation of the prediction of success in women's field hockey. Ed.D. in Physical Education, 1979. 159 p. (G.M. Hennis)

The purpose of this study was to determine what, if any, predictive qualities could be identified in a group of skilled women field hockey players. Ss were 106 players who participated in the international selection and training camps sponsored by the US Field Hockey Association during the summer of 1978. The study investigated anxiety, visual perception, manual dexterity, ball control, and dynamic balance. 5 tests were used to assess the predictor variables: (a) Sports Competition Anxiety Test, (b) Herkowitz's Moving Embedded Figures Test (modified), (c) Minnesota Rate of Manipulation Test, (e) Chapman Ball Control Test, and (3) Scott Sideward Leap Test. Level of camp participation determined by player selection,based on subjective evaluation of field hockey playing ability, served as the criterion measure in the study. A stepwise discriminant function analysis determined that the 3 discriminating variables - dynamic balance, ball control, and anxiety-could predict correct group membership 78.95% of the time, provided the goalies' ball control skills were analyzed separate from those of the forwards and backs. Years of experience was not an important factor in group classification.

347. COLE, J.L. A descriptive analysis of teacher-augmented feedback given to university students in beginning golf classes. Ed.D. in Physical Education, 1979. 181 p. (P. Berlin)

Individualized teacher-augmented feedback (TAF) was described from 3 perspectives: (a) an expert observer, (b) the teacher, and (c) the students. 2 types of instruments were used to collect TAF data: the Cole-DAS for systematically recording TAF given by 3 teachers to 33 students and TAF questionnaires for surveying teacher and student perceptions and preferences of feedback given or received in the learning/performance of golf. Results showed that the Cole-DAS items most frequently used were: (a) mode--audio; (b) time of delivery--terminal; (c) type of message--corrective; (d) general referent--whole movement; and (e) specific referent--space. Teacher perceptions (66.7%) of TAF given were more accurate than those of the students (57.6%). Teachers' TAF preferences matched the most frequently observed Cole-DAS categories surveyed 50% of the time. The majority of students preferred the following kinds of individualized TAF; (a) mode--audio-visual; (b) time of delivery--terminal; and (c) type of message--corrective. Of these, the time of delivery and type of message items favorably compared with the TAF observed. There was a low and negative relationship between the kind of teacher augmented feedback given and each of the 3 teachers' skill ranking of her/his students. This was evidenced by 12 of 15 Kendall tau values ranging between -.09 and -.51.

348. DANIELS, L.A. *An evaluation of a one-day workshop on radioimmunossay and electrophoresis*. M.Ed., 1979, 64 p. (T.M. Mommsen)

349. DEVANEY, M.T. *Euclidean motion*. M.F.A. in Dance, 1978. 35 p. (G. Cheney)

350. EARLS, N.F. *Distinctive physical education teachers: personal qualities, perceptions of teacher education and the realities of teaching*. Ed.D. in Physical Education, 1979. 222 p. (P. Berlin)

Distinctive PE teachers were observed and interviewed to determine their personal qualities, perceptions of teacher education and realities of teaching. Observable indicators of teacher distinctiveness were developed by teacher educators as a basis for their nomination of Ss. Ss (N=6) were in at least their 5th year of JHS or middle school teaching in metropolitan Boston. Information was elicited primarily by open-end questions in an in-depth semi-structured interview. Written case study reports used quotations and adhered strictly to Ss' expression of ideas. A synopsis of case reports was presented. Findings were synthesized and interpreted by the investigator with regard to: (a) personal and teaching qualities; (b) teaching realities, satisfactions, dissatisfactions and persistence; and (c) pre-service and in-service teacher education.

351. EISEN, H.E. A study of the perceptions of four voluntary health agencies toward the main focus of community health education. M.Ed., 1979. 55 p. (R. Vincent)

352. GALLEMORE, S.L. The student teaching experience: perceptions of student teachers, cooperating teachers, and university supervisors. Ed.D. in Physical Education, 1979. 201 p. (P. Berlin)

This investigation examined perceptions about the objectives of the student teaching experience in the School of Health, Physical Education and Recreation at The University of North Carolina at Greensboro. The survey instrument called for subjects to: (a) rank 15 objectives as to importance, (b) designate the degree to which the objectives were achieved, and (c) record activities and experiences which contributed to the achievement of the objectives. Results were analyzed for each respondent group--student teachers, cooperating teachers, and university supervisors. A combined result was also determined. The objective perceived most important related to effectiveness in maintaining a productive learning environment. 2 of the respondent groups ranked it most important; student teachers perceived it 2nd in importance. The objective perceived most completely achieved was concerned with personal characteristics. 2 groups ranked it most completely achieved. University supervisors placed it 4th in order of achievement. Reasons offered by student teachers for the achievement of objectives related to personal and professional growth. Responses about contributions to the achievement of the objectives were designated in a content category according to the source associated with the contribution. All respondents indicated that activities and experiences occurring at the cooperating school contributed most to the achievement.

353. GEARITY, P.E. TM: some inferred effects on attitudes, anxiety and motor behavior (six case studies). M.S., 1979. 161 p. (C. Ulrich)

354. GREAVES, E.C. Personal values, institutional goals and voting on sport governance issues. Ed.D. in Physical Education, 1979. 128 p. (M. Mordy)

Personal values, institutional goals for athletics, and voting behavior of AIAW Executive Board members on issues concerning the governance of athletics in the years 1975 through 1977 were examined. Ss (N=47) were assigned the status of High or Low on each of the 6 factors of Gordon's Survey of Interpersonal Values (SIV): they were designated to be Conservative or Liberal in their voting behavior; and they were associated according to their institutions' goals for athletics as Conservative or Liberal. Results of the application of Chi Square and Fisher's exact probability test indicated no sig diff in voting behavior between Ss with Conservative and Liberal institutional goals, nor was there any diff among groups of Ss similarly categorized on personal values and institutional goals. Of the 6 SIV factors, only Recognition was related to voting behavior. There was no pattern between institutional goals and voting behavior nor personal value systems and voting behavior on a year-to-year or aggregate basis. The findings of the study did not support the expectation that faculty representatives to AIAW vote according to their personal value hierarchy and congruently with the goals of the institutions with which they are affiliated.

355. HILDRETH, K. Sexism in elementary physical education literature: a content analysis. Ed.D. in Physical Education, 1979. 110 p. (C. Ulrich)
The purpose of this study was to analyze the current ELE PE literature and determine whether sexist content was present, and if so, whether the sex of the authors had any relationship to the degree or presence of sexist content. After a pilot study was done to evaluate the selected categories, the investigator examined the written content and pictures of 23 ELE PE textbooks. Materials published after 1972, the date of the Title IX passage which barred sex discrimination in the schools, were selected to study. Chi Square statistical analysis as well as % comparisons yielded the following results: (1) the sex of the authors did appear to be an influence in the content, especially in the categories of teacher pictures and children pictures; and (2) the written content was found to be sexist at a statistically sig level with the exception of pronoun usage. It was concluded that today's ELE PE literature contains many sexist elements within its content, both in written content and illustrations.

356. HORROCKS, R.N. The relationship of selected prosocial play behaviors in children to: moral reasoning, youth sports participation, and perception of sportsmanship. Ed.D. in Physical Education, 1979. 199 p. (S. Robinson)

The relationship of children's prosocial play behavior, moral reasoning, participation in youth sports, and perception of sportsmanship was examined. The mean scores and rank order relationship of certain demographic factors were also considered as they related to the variables. Factors included: IQ, race, sex, birth order, size of family, number of adults in the home, family structure, parent's occupation, parent's educational level, number of playmates, and age of playmates. Data were collected by interviewing 5th and 6th grade boys and girls (N=63). Moral reasoning and perception of sportsmanship scores were determined by means of the Kohlberg interview technique. Scores for prosocial play behavior were determined by teacher's observations using a prosocial play behavior inventory designed by the investigator. Results of both parametric and nonparametric analyses showed that scores for moral reasoning and perception of sportsmanship were positively related to scores for prosocial play behavior. Scores for participation in youth sports were not related to scores for prosocial behavior. The interrelatedness of moral reasoning and perception of sportsmanship scores suggested that children's perception of sportsmanship reflects a developmental construct in stages of moral reasoning. The procedures of achieving content and construct validity supported the utility of the prosocial play behavior inventory in determining prosocial play behavior abilities in upper ELE school populations.

357. LEONARD, D.E. Accuracy of the backboard versus the basket rim as a point of aim for the basketball jump shot. M.S., 1979. 39 p. (G.M. Hennis)

358. LIDSTONE, J.E. The socioeconomic characteristics of male football and basketball players from five universities in the Atlantic Coast Conference. M.S., 1979. 74 p. (C. Ulrich)

359. LORD, J. The teaching of dance: a characterization of dance teacher behaviors in technique and choreography classes at the university level. Ed.D. in Physical Education, 1979. 244 p. (G.E. Cheney)

The study characterized dance teacher behaviors in 2 choreography and 2 technique classes at the university level using a modification of Joyce's System of teacher behavior analysis (LAJS). Two coders were trained and satisfactory standards of objectivity and reliability were met. 20 audio-video recordings of choreography and technique classes distributed over a 17 wk semester were coded. It was found that teacher behaviors in choreography classes were (a) 2.53 times more verbal than nonverbal; (b) moderately direct when dealing with procedure and indirect when dealing with content; (c) inflexible when dealing with content and more flexible when dealing with procedure; (d) most frequently evoking unpredictable student behaviors through the communication of teacher's conclusions or opinions; (e) most frequently providing feedback in the form of teacher's conclusions or opinions; and (f) dominated by unpredictable student behaviors. Teacher behaviors in technique classes were (a) 1.17 times more verbal than nonverbal; (b) very direct when dealing with both content and procedure; (c) inflexible when dealing with both content and procedure; (d) most frequently eliciting predictable student behaviors through imposing a plan or procedure or delivering information; (e) most frequently providing information on the form of information or imposition of plan or procedure; and (f) dominating the interaction process. The LAJS was judged to have limited potential for further use in description of dance classes.

360. McGEHEE, M.C. Innerscape: the relation of the concept of "significant form" to dance. M.F.A. in Dance, 1979. 31 p. (G.E. Cheney)

361. McGIRR, M.G. Women professional and amateur golfers' self-perceptions with respect to flow theory. M.S., 1979, 102 p. (P. Berlin)

362. McKETHAN, J.F. Student attitudes toward instructional processes in secondary physical education. Ed.D. in Physical Education, 1979. 141 p. (G.M. Hennis)

The purpose of this study was to explore student attitudes toward instructional PE processes. The preliminary phase of the investigation was concerned with the nature of the constructs underlying student attitudes toward instructional processes. The SAI-IPSPE was developed to assess student attitudes. Responses of male and female PE students (N=278) were analyzed using factor analytic procedures. Statements with factor loadings and final estimates of communality equal to or greater than .50 were retained on the SAI-IPSPE. Test-retest reliability of the SAI-IPSPE was .72. Findings revealed that (a) the SAI-IPSPE was a valid tool, (b) student attitudes toward instructional processes were significantly different according to the class in which the student was enrolled, (c) male and females demonstrated sig diff attitudes about instructional processes in the

SHS PE environment, (d) attitudes were significantly different paralleling the no. of days the student failed to participate in the PE class, and (e) attitudes were not different with respect to letter grade.

363. MILLER, J. Positive reinforcement used by coaches in basketball practice sessions. M.S., 1979. 71 p. (S.M. Robinson)

364. MINTER, A.C. An evaluation of the educational component of the Alamance County Health Department Family Planning Clinic. M.Ed., 1979. 59 p. (R. Vincent)

365. PAUL, R.G. The 91st parallel: increasing the illusory potential of the stage space. M.F.A. in Dance, 1979. 19 p. (G. Cheney)

366. PHILLIPS, J.H. A comparison of parental attitudes toward competition in youth sports in relation to the sex of the participant and the selected sport. Ed.D. in Physical Education, 1979. 93 p. (C. Ulrich)

A 25-item Likert-type attitude scale was used to measure parental attitudes toward youth sport competition in basketball, baseball, and swimming. The Ss were 288 randomly selected parents of youth sport participants, as follows: parents of basketball participants (N=95), baseball (N=92) and swimming (N=101). ANOVA procedures for both raw and factor scores were used to compare the parents' attitude scores based on the sex of the child, the relationship of the parent to the child, and the sport of the child. The results indicated that parents of youth sport participants generally possess favorable attitudes toward youth sport competition for the 3 sports studied. Parents of youth swimming participants hold more favorable attitudes toward youth sport competition than parents of youth baseball participants. Neither the sex of the child nor the relationship of the parent to the child affect the attitudes of parents toward youth sport competition.

367. PIPKORN, C.J. A comparison of cardiovascular fitness levels of selected cyclists and joggers. M.S., 1979. 84 p. (C. Ulrich)

368. RIKARD, G.L. Teacher perceptions of the organizational management systems in their school and department of health, physical education, and recreation. Ed.D. in Physical Education, 1977 148 p. (R. McGee)

Actual and ideal perceptions of college teachers were compared between 2 organizational structures and by levels of academic rank. Teachers (N=186) characterized the organizational management system of their respective schools and departments of HPER by categorizing 7 organizational variables on a 4-system continuum. The 7 organizational variables included leadership, motivation, communication, interaction, decision making, goal setting, and control. Teachers responded twice to each variable yielding an actual and an ideal perception of their organization's management system. ANOVA and the Scheffé post hoc test indicated actual and ideal perceptions were sig diff, with ideal perceptions higher for school and department teachers on all variables except control. Teachers from departments expressed sig lower actual perceptions than did those from schools by describing their organization's management system between benevolent authoritative and consultative. Teachers from schools described their actual organizational management system as consultative. Teachers from both department and school structures agreed that their ideal organizational system was participative groups. No sig diff were indicated when teacher perceptions were compared by academic rank.

369. RIPLEY, [illegible].R. Student attitudes toward the development of nuclear power plants to supply energy. M.Ed., 1979. 67 p. (T.M. Mommsen)

370. ROBERSON, A.G. I remember you. M.F.A. in Dance, 1979. 31 p. (L. Andreasen)

371. SHELTON, J.C. Assertion in women's intercollegiate tennis singles. Ed.D. in Physical Education, 1979, 134 p. (P. Berlin)

A systematic observation technique was developed to analyze assertion in women's intercollegiate tennis singles competition. The relationship between observed assertion and players' scores on a general assertion scale, the CSES (Galassi et al., 1974), was examined. A comparison was also made between observed assertion, team ranking, and points and games won and lost. Player profiles were compiled which illustrate possible uses of observation findings. Results of the Kendall rank correlation procedure indicated that no sig relationship existed between the CSES and 2 observations of assertion in tennis singles play. Comparison of observed assertion with points and games won and lost considering player ranking revealed that, in general, there was a definite association between assertion in tennis and success. The finding was common among all players regardless of ranking. Player profiles of the 6 singles players observed included: (a) a comparison of assertive scores when serving and receiving, (b) a comparison of points won and lost when play was assertive, nonassertive, and neutral, (c) a summary of game-by-game behavior, and (d) a summary of player behavior following points lost when play was assertive.

372. WARD, D.S. Student perception of the classroom environment in secondary school physical education. Ed.D. in Physical Education, 1979. 210 p. (K. Barrett)
Student perception of the classroom environment was investigated in SHS PE classes. Differences in perception between male and female students based on the sex of their teachers were also studied with students enrolled in required SHS PE classes (N=822). The Learning Environment Inventory and an information questionnaire were administered to all students. Data were analyzed based on 10 subgroups based on student sex and time spent with a teacher by sex. ANOVA revealed diff in 14 of the 15 LEI dimensions ($p < .05$) which were attributable to either of the 2 main effects and/or the interaction effect. Bonferroni multiple comparisons found distinct diff among the 10 subgroups. Female students appeared to be more affected by the varied organizational structures occurring within classes taught all the time by teachers of their same sex. 3 particular dimensions were sig perceived by both male and female students for the male teachers: high Apathy, high Disorganization, and low Goal Direction.

373. WELSH, A.C. Human support systems utilized by hospitalized patients: an exploratory study. M.Ed., 1979. 137 p. (M.K. Solleder)

374. WEST, T.R. Legal aspects relating to handicapped students in physical education and athletics. Ed.D. in Physical Education, 1979. 178 p. (G.M. Hennis)
This investigative study deals with the legal aspects of handicapped children in physical education and athletics. Congressional legislation is given showing those public laws that were used as stepping stones leading to the finalizing of The Education For All Handicapped Children Act of 1975, Public Law

94-142. A summary of the federal mandates that give specific references to students' rights, parents' rights, and procedural due process is highlighted. Court cases are cited showing the major causes of dispute within the educational system dealing with handicapped children. Decisions have been reached in the following areas: procedural due process, free appropriate public education, placement in the least restrictive environment, educational cost to parents, and the discrimination against athletes based solely on their handicapped conditions. General summary and conclusions were based on existing court decisions that should be of value to all educational decisionmakers.

375. WOOD, M. The drinking patterns of undergraduate women living in residence halls at the University of North Carolina at Greensboro. M.Ed., 1979, 70 p. (J.A. Fitch)

UNIVERSITY OF NORTHERN COLORADO (M. Behling)
GREELY, COLORADO

376. BAKER, Cynthia Mary. Elementary school teachers' perceptions of the typical male, typical female, and typical athlete. Ed.D. in Physical Education, 1979. 163 p. (C. Cody)

377. BRIODA, Jeffrey Mark. Time for recovery from successive bouts of exercise as measured by changes in the anaerobic threshold: a comparison of recovery intervals of 24 and 48 hours. Ed.D. in Physical Education, 1979. 185 p. (N. Van Anne)

This study focused on overexercise and whether 24 hrs is sufficient recovery time (as measured by changes in the anaerobic threshold) during successive 45 min exercise bouts of running/walking at an intensity approximating the anaerobic threshold (AT). 18 men and women between 19 and 36 years of age ($\bar{X}$=24.4 yrs) were randomly assigned to 1 of 2 experimental groups; a 48 hr group which exercised every other day with 48 hrs of recovery and a 24-hr group which exercised each day with 24 hrs of recovery. The groups were given a graded exercise bicycle test at the beginning (T_1), after 3 wks of training (T_2), after 6 wks of training (T_3), and at the end of 9 wks (T_4) during which AT was measured noninvasively using a slope analysis to ascertain non-linear increases in V_E, V_{CO2}, and R. A control group of 6 men and women also took all the tests but did not exercise during the 9 wk duration of the study. An

ANOVA indicated that 24 hrs is not sufficient recovery time until the body has had time (approximately 6 wks) to adapt to the exercise stress. The AT holds potential for being a sensitive indicator of adequate recovery time.

378. BEAUCHAMP, Larry S. The development of a programmed textbook and a study of its effectiveness in the training of ice hockey coaches. Ed.D. in Physical Education, 1979. 435 p. (M. Behling)

A programmed testbook on coaching ice hockey was developed. A sample of 63 males were divided into a control and an exp group. The control group attended a traditional Level III Clinic of Canada's National Coaches Certification Program while the exp group only used the programmed textbook. Both groups wrote the same certification test. A t-test was used to compare the means of the 2 groups. The means were not sig ($p > .05$). It was concluded that the programmed textbook designed as a self-instructional tool was as effective as a standard clinic in developing knowledge of the concepts necessary for Level III certification by the N.C.C.P.

379. FITZGERALD, Kathleen. The rater reliability and aspects of validity of the present method of judging figures in figure skating. Ed.D. in Physical Education. 1979. 122 p. (M. Behling)

380. HORSFALL, J. Stuart. Interrelationships among autonomic, self-report and behavioral measures of competitive arousal. Ed.D. in Physical Education, 1979. 156 p. (G.H. Sage)

Linear and Curvilinear relationships among autonomic (HR, ST, MT, GSR), Self-Report (SCAT, Comp Short Form of SAI), and behavioral measures of competitive arousal were examined. Computerized data collection (almost instantaneous recording) was conducted on 51 male PE majors randomly assigned to 1 of 3 stress induced (distorted performance feedback) groups (Hi, Med, Lo). All measurements were expressed in absolute and relative terms. Analysis of data involved r, ANOVA, and Multiple Regression. An inverted-U performance curve was observed but not substantiated due to a failure to demonstrate effective arousal manipulation. Interrelations among autonomic measures were low (.25 to .02). No curvilinear relationships were observed. No relationship was observed between autonomic and self-report measures or between self-report measures and performance. The relationship between state and trait anxiety was

.41 ($p < .003$). The coefficient for heart rate and rel. performance was .25 ($p < .08$) and for ST and rel. performance was .39 ($p < .006$). Greatest performance predictability was gained through knowledge of autonomic measures ($R^2 = .203$). An "efficient" predictive model resulted from knowledge of rel. ST ($R^2 = .148$), ab. ST ($R^2 = .021$) and trait anxiety ($R^2 = .034$). This model explained 20.36% of the variance in relative performance (p .01). It was recommended that an examination of intra-subject autonomic, self-report and behavioral intercorrelations be made.

381. KOCIUBA, Rosalind. The ranking of objectives by elementary, secondary, and university physical educators. Ed.D. in Physical Education, 1979. 125 p. (T.M. Malumphy)
The investigation was to determine the priority physical educators have concerning the common objectives of PE. The investigation was conducted during March and April, 1979 in Wisconsin. Ss were 70 ELE physical educators, 86 SHS physical educators, and 89 university physical educators (N=245). A questionnaire requiring a paired-comparison, forced-choice response and demographic data, accompanied by a cover letter was mailed to each S (44% return). The mdn was determined for each of the 10 objectives within each of the groups. The rank order for each group was determined based on mdns. The amount of agreement within each group was determined in terms of % relative to various quartiles. Spearman's rank order correlation was tested at the .05 level. Findings were physical educators appeared to have a generalized common agreement about the objectives of PE relative to their particular education level, with the objective Neuromuscular Skills having a high priority. The objective Leisure Time Activities was not as highly ranked among ELE educators as SHS educators. The objectives Self Realization and Emotional Stability were ranked higher among ELE educators than SHS educators.

382. NELSON, Katherine H. A study of the relationships between support for political authority, support for sport officials, and disrespectful behavior toward sport officials. Ed.D. in Physical Education, 1979. 162 p. (C. Cody)
A semantic differential was used to measure support for the concepts of "president," "police officer," and "referee-umpire." A Likert scale for approval of 14 actions towards sport officials measured respectful behavior. Ss were college men and women, athletes and nonathletes (Total N = 259) at the University of North Colorado. Support for all concepts was only

slightly positive. ANOVA indicated no sig diff between support for political authority and the sport official. There was a positive r, ($p < .05$) between support for referee-umpire and respectful behavior only for women nonathletes; r's for men and women athletes and men nonathletes were considered 0. Men were more approving of disrespect to sport officials ($p < .05$) than women. Sport groups did not differ in overall respectful behavior, but diff were found on several items. These results indicated that support for the sport official and political authority are related. Even though support for the sport official was only minimal, disrespect towards sport officials was not related to support, but probably a result of sanctioned deviance.

UNIVERSITY OF OKLAHOMA (T. Gabert)
NORMAN OKLAHOMA

383. JEE, A. *Some effects of passive and active vestibular stimulation on balance performance of 6-, 7-, and 8-year old children*. M.S. in Physical Education, 1979. 59 p. (T. Gabert)

The theory that vestibular input resulting from rapid spin training can influence balance performance of a child by activating dysfunctioning synapses, and increasing the facilitory effect on the muscle spindle, was investigated using passive stimulation, active stimulation, or no stimulation of the vestibular system. Elementary children (N=60), CA of 6 to 8 yrs, with below average balance abilities as evaluated by the Frostig Movement Skills Balance Test, were assigned as matched Ss to either a passive (PVS), active (AVS), or control (CVS) vestibular stimulation group. The PVS group received 140 chair rotation treatments, consisting of a 3 sec angular acceleration, a 57 sec period of constant velocity rotation at 100°/sec, and an impulsive stop. The AVS group received 140 1 min treatments, consisting of a child working a vestibular board in 10 diff positions. Neither the PVS or the AVS training produced sig ($p > .05$) gains on the balance test scores of those Ss when compared with their matched CVS groups. The results of this study do not support the claim that PVS or AVS in perceptual motor training programs has a beneficial effect on the vestibuloocular and vestibulospinal reflexes of children with developmentally delayed balance abilities.

384. WEBER, T.M. Effect of arm exercise technique on oxygen consumption, heart rate, blood pressure, and double product. M.S. in Physical Education, 1979. 65 p. (R. Ratliff)

6 sedentary males, CA 30-65, years, all with a history of either borderline hypertensiveness, myocardial infarction, or coronary artery bypass graft surgery performed 2 calisthenic arm exercises to analyze the effect on HR, PB, DP, and VO_2 when rate, cadence, and resistance were varied. 8 versions of 2 groups of exercise abd and ext rot to shoulder ht, and flex to shoulder ht, horiz abd, and horiz add were tested under varied conditions. The independent variable compared was the exercise technique of equal components of motion or relaxation, while the independent variable of rate (15 reps/min or 30 reps/min) and resistance (with or without 1 lb resistance on each arm) were matched for each pair. Each exercise was performed for 4 min, and cadence was controlled by a metronome. The results demonstrate that the 2 exercise techniques constituted similar O_2 consumption. However, the exercises performed with the relaxation component showed sig ($p<.05$) lower DP, primarily accounted for by SBP, thus indicating a lower MVO_2. Furthermore, it can be concluded that VO_2 consumption may not reflect MVO_2 requirements.

UNIVERSITY OF OREGON (E.R. Reuter)
EUGENE, OREGON

385. ALDRICH, Kenneth R. The Italian influence on dance in the court of Elizabeth I. M.A. in Dance, 1979. 132 p. (T.R. Faulkner)

386. ABBOTT, Courtney P. A descriptive evaluation of the adult health improvement program of Lane County. M.S. in Health Education, 1979. 145 p. (L.G. Davis)

The process and materials of the Adult Health Improvement Program (AHIP), a health assessment and promotion for employees in Lane County, was evaluated. Client response (N=65) to 3 questionnaires demonstrated a high acceptance of the materials and procedures used. Ss were well prepared for both sessions, assessment and consultation, and found the process personal and educational. The most meaningful AHIP tool was the Health Risk Assessment (HRA), a type of Health Hazard Appraisal (HHA). The follow-up consultation was rated especially positive by Ss. Exercise, nutrition and stress reduction were the most selected behavior change goals. 94% of Ss would repeat AHIP. Client characteristics (i.e. age, weight, BP) had no sig relation to satisfaction with program, final attitude about AHIP purpose, perceived probable long-term health effects, or decision to repeat. There was a sig positive change in attitude about AHIP purpose from pre-assessment to post-consultation.

387. AUSTIN, P. Keith. *The relationship between reaction time and movement time when measured separately and on different trials*. M.S. in Physical Education, 1979. 42 p. (J.D. Adler)

388. BRINER, Gregory J. *An analysis of mechanisms associated with knee injuries of college football players*. M.S. in Physical Education, 1979. 57 p. (E.P. Wooten)

389. CHINN, Neil R. *The development of organized sports in England, 1860-1890*. M.S. in Physical Education, 1979. 65 p. (J. Broekhoff)

390. CHRISTIE, William D. *The influence of position and occasion on college football injuries*. M.S. in Physical Education, 1979. 93 p. (M.J. Ellis)

391. CORCOS, Daniel M. *Movement control: an investigation using a transfer paradigm*. M.S. in Physical Education, 1979. 86 p. (J.D. Adler)

392. FINNEGAN, Eileen. *An investigation of myosin atp-ASE activity in antigravity skeletal muscle of the albino rat*. M.S. in Physical Education, 1979. 29 p. (E. Evonuk)

393. GADDIS, Maureen M. *Cynthia's journey: a choregraphic thesis*. M.A. in Dance, 1979. 75 p. (T.R. Faulkner)

394. GARDNER, Valerie. *The effect of a program of physical activity on depression and life satisfaction in the elderly*. M.S. in Physical Education, 1979. 53 p. (J. Bennett)

395. GILL, J.I. *Different perspectives of the purpose for student evaluation of teacher performance at the community college level*. Ph.D. in Physical Education, 1979. 277 p. (B.C. Munson)

2 surveys were used to determine the current faculty and administrative uses of student ratings and attitudes towards their use as a measure of job effectiveness. 44% of all personnel listed by contract as teachers and administrators (N=1681) from the 5 English language community colleges in Quebec completed a Staff Attitudes Questionnaire providing personal information, attitudes towards student evaluations, and job evaluation techniques. 45% of department chairmen (N=143) filled out a 2nd questionnaire providing additional information on departmental evaluation techniques. The data analyzed by %, X̄, 1 way ANOVA, and post hoc pairwise comparisons (Tukey) established that faculty support the use of student evaluations but not as the sole criterion of job performance. Student evaluations should be anonymous, conducted once a semester. Decisions concerning their use and access to the results should remain within the department. Mandatory department-wide student evaluations were preferred using a combination of multiple choice and anecdotal questions. Employment status and college affiliation of respondents had the most influence on responses. The primary purpose of evaluation determined as instructional improvement established the acceptance of student ratings as a valid and useful means of evaluating teachers.

396. GRIFFIN, Rick. A study to determine the frequency of absence of the palmaris longus muscle and the plantaris muscle in the same individual. M.S. in Physical Education, 1979. 30 p. (E.P. Wooten)

397. HILL, Bruce L. Investigation of the variability of the palmar arches of the hand. M.S. in Physical Education, 1979. 26 p. (E.P. Wooten)

398. HUMBLE, C.B. Effects of prior instructions and task outcome on children's causal attributions for and affective reactions to a motor achievement task. Ph.D. in Physical Education, 1979. 132 p. (J. Broekhoff)

To determine how motor achievement tasks are best presented to and evaluated for children, 84 Ss, 8 to 10 yrs of age, participated in an original task. Ss were exposed to 1 of 6 treatments combining prior instructions concerning requirements for task success (none, importance of effort, importance of ability) with task outcome (success, failure). Following the task, Ss were questioned about their attributions of causality for their task outcome and their effective reactions (evaluative self-perceptions) to that outcome. ANOVA indicated affective reactions were affected only by task outcome; success was more positively evaluated than failure. Results of the influence of the various treatments on the children's attributions of causality were mixed. Comparison of probabilities of observed attributions with those derived from binomial distributions indicated a limited number of sig tendencies toward conformity with expectations based on a logical consequence of the treatment. These tendencies were observed only after task success as the children tended to ascribe success to esteem-enhancing causes and to avoid attributing failure to causes which would reduce evaluative perceptions of the self. The prevalence of the esteem-protective strategy of causal interpretation suggested that the influence authority figures may have on children's attributions is limited.

399. LIBBEY, Joan. The functions of a coach as perceived by high school and college female softball players. M.S. in Physical Education, 1979. 84 p. (J.D. Adler)

400. MIZOGUCHI, Hideo. Survey and analysis of the techniques used to teach selected crucial gymnastics movement in competitive high school boys's gymnastics in the State of Oregon. M.S. in Physical Education, 1979. 121 p. (R.J. Smith)

401. MORETON, Christopher R. Attention to concurrent visual and kinesthetic stimuli by athletes and non-athletes. M.S. in Physical Education, 1979. 64 p. (J.D. Adler)

402. HULHOLLAND, Martin. Effect of orientation of viewing a demonstration and the availability of concurrent visual feedback on the initial stages of learning a manipulation skill. M.S. in Physical Education, 1979. 39 p. (J.D. Adler)

403. NOLAN, Gerald N. A biomechanical analysis of the effects on performance of two types of canoe paddles in North American canoe racing. M.S. in Physical Education, 1979. 50 p. (B. Bates)

404. OGUNDARI, Jacob. Level of aspiration and accuracy of performance of boys and girls ten to fourteen years of age. M.S. in Physical Education, 1979. 51 p. (J. Broekhoff)

405. SEEREITER, Mary L. Visions: a choreographic thesis. M.S. in Dance, 1979. 147 p. (J.W. Descutner)

406. THOMPSON, Joe H. The relationship between athletes and non-athletes in academic achievement at Augustana College in Rock Island, Illinois. M.S., 1979. 77 p. (E.R. Reuter)

The academic success of 130 athletes and 130 randomly selected non-athletes was compared. The sample population consisted of male and female students who graduated during 1976, 1977, or 1978 from Augustana College in Rock Island, Il. The Ss were classified as male athletes (N=98), male non-athletes (N=98), female athletes (N=32) and female non-athletes (N=32). Data collected from 7 areas of each student's academic records were used to assess academic performance. ANOVA and t tests were utilized to test for statistical significance ($p = < .05$). Results from the statistical analysis revealed: no sig diff in academic performance existed between male athletes and male non-athletes, or between female athletes and female non-athletes; male and female athletes exhibited about equal academic potential but female athletes attained sig higher grades, incurred probation less often, and required sig longer to graduate than male athletes; and male and female athletes carried a sig lighter program load during the competitive season in comparison with the off season.

407. TWA, H.I. A comparison of male and female physical education teachers' verbal and nonverbal interaction at the elementary school level. Ph.D. in Physical Education, 1979. 99 p. (K.D. Rankin)

This study was a descriptive-analytic study of what teachers and students are doing, verbally and nonverbally, in ELE PE. Ss involved a random sample of 16 teachers and their students. Ss' behavior was measured according to the Rankin Interaction Analysis System (RIAS). 2 S variables were selected: (1) sex of the teacher and (2) grade level being taught (1-3, 4-6). The design was a 2-factor repeated measures ANOVA. 4 sig diff were found at the $p < .05$ level. 1 sig interaction showed that male Ss praised more at the intermediate level (4-6) than at the primary (1-3) level, whereas female Ss were just the opposite. A 2nd interaction indicated that male Ss had more non-response or confusion in their classes at the primary level than at the intermediate level and females were just the opposite. Also males had more confusion or non-response than females and intermediate students had more frowning behavior than primary students. The primary interaction pattern was 1-7-1-9-1 indicating, teacher talk, student movement, teacher talk, teacher gestures, teacher talk.

UNIVERSITY OF PITTSBURGH (M.A. Sherman)
PITTSBURGH, PENNSYLVANIA

408. HOUSNER, L.D. The role of visual imagery in the short-term retention of distance and location cues. M.A. in Physical Education, 1979. 110 p. (S.J. Hoffman)
The role of visual imagery in short-term motor memory was examined by comparing performance of college Ss high in imagery ability (HIs) with those low in imagery ability (LIs) in the reproduction of criterion end locations (ELs) and distances (Ds) on a curvillinear arm positioning task. 12 HIs and 12 LIs, representing extremes on a test of spatial relations, were assessed on ability to reproduce 6 Ds and 6 ELs immediately after presentation, after a 30-sec rest, after a 30-sec imaginal rehearsal, and after a 30-sec imaginal distraction. AE and VE were used to measure reproduction accuracy. Results indicated that HIs reproduced ELs with less error than LIs across all reproduction conditions, while no diff were revealed between groups on retention of distance information. The expected imagery group x reproduction condition interaction for retention of ELs was not sig. However, when error scores of HIs who indicated using imaginal coding strategies were compared with scores of non-coding LIs, the expected interactions were observed. Diff between HIs and LIs were sig larger in the immediate and imaginal rehearsal conditions than in either of the other 2 conditions. Overall, results suggested that visual imagery may play a functionally important role in short-term retention of ELs.

409. MATOVCIK, L. In vivo expression of murine sarcoma virus genes in rats subjected to an exercise stress. M.A. in Physical Education, 1979. (K.F. Metz)
To gain insight into the mechanism of cell transformation by RNA tumor viruses, 3 groups of wk-old female rats were forced to swim in deep water until exhaustion for 3, 6, and 10 days, respectively. A ten-fold increase of MSV-rat sequences occurred at 3 days, with similar increases at 6 and 10 days. Parallel animals were forced to swim 5 30 min bouts within a 3 hr period and were then sacrificed at various time points. RNA induction was evident at 3 hrs post exercise and decayed to control levels by 48 hrs. Whether the specific stimulus for MSV-rat

sequences resulted from increased metabolic activity or decreased extracelluar O_2 tension could not be ascertained. However, the exercise was responsible for an *in vivo* induction of normal rat cell sequences associated with MSV.

410. RAMSAY, M. *The effects of practice and instruction on motor schema development*. M.A. in Physical Education, 1979. 94 p. (J.E. Clark)
A major prediction of Schmidt's schema theory is that variable practice facilitates schema development. The present study tested this prediction and further explored effects of instruction on schema development. Children (5-7 yrs) and adults performed a two-handed coordination task (a modified labyrinth game) under variable or constant practice and under instruction or no instruction. Variable practice was manipulated by varying size dimensions but not the proportions of the task. The results did not support the variability-of-practice hypothesis in either children or adults. Further, instruction was not found to aid shema development but, to the contrary, no instruction made the children's performance easier on the delayed transfer task. Questions arise regarding the nature of practice variability and parameters to be varied as well as the effectiveness of verbal instruction for children.

UNIVERSITY OF TENNESSEE (W. Liemohn)
KNOXVILLE, TENNESSEE

411. BOND, V. *Effects of alcohol on cardiorespiratory function and lactate production*. Ed.D. in Physical Education, 1979. 205 p. (B.D. Franks)
12 Ss, 6 abstainers and 6 moderate drinkers, performed a progressive work task on the Monark bicycle ergometer to exhaustion after ingestion of a placebo (0 ml./kg/), small (.44 ml./kg.), and moderate dose (.88 ml./kg.) of 190 proof ethyl alcohol mixed grapefruit juice. The work tasks consisted of 3 min each at 360, 720, and 1,080 kpm./min. Thereafter, the resistance was increased by 180 kpm./min every 3 min until the S was unable to maintain a pedal rate of 60 rpm. Diffs due to dosages and type of drinkers were evaluated by a 2 X 3 ANOVA. There were no sig diff ($p > .05$) in HR, VO_2, endurance, rating of perceived exertion, and blood lactate due to the ingestion of a small and moderate dose of alcohol compared to the control condition. Small and moderate dosages caused increased diastolic BP of abstainers during exercise at 720 kpm./min. A moderate dose caused increased ventilation of moderate drinkers

at rest. There is little evidence from this study to support the conclusion that ingestion of small and moderate dosages of alcohol by abstainers and moderate drinkers affects cardiorespiratory function and lactate production.

412. GAYLE, R.C. Effects of a physical education endurance running program on coronary heart disease risk factors in high school sophomores. Ed.D. in Physical Education, 1979. 70 p. (B.D. Franks)

129 randomly selected SHS sophomores were tested before and after an 18 wk endurance running program (up to 12 min daily) to determine the effects of that program on BP, body fatness, HR response to subax bench-stepping, leisure time energy expenditure, and cigarette smoking habits. 56 Ss were randomly selected to take the Tennessee Self-Concept Scale. ANOVA on post-intervention data revealed no sig diff ($p > .10$) on physiological measures between Ss taking no PE classes during the 18 wk program (Group 1), Ss taking PE during the 1st 9 wks only (Group 2), Ss taking PE during the 2nd 9 wks only (Group 3), and those Ss taking PE for the entire 18 wks (Group 4). Groups 1 and 4 only were compared on the self-concept measures; no sig diff were detected ($p > .10$). Analysis of Ss scoring in the upper 50% on HR response to bench-stepping (highest HR response) yielded similar results. Only the score for personal self was sig higher for Group 4. There were also no sig diff among the groups using the 50% most fat Ss. The program did not influence students to stop smoking. Results suggest that the endurance running program employed in this study is not an effective way for school physical educators to produce desirable changes in coronary heart disease risk factors for SHS sophomores in 18 wks.

413. LYNN, S.K. The effect of withdrawal of knowledge of results on performance of movement at different speeds. M.S. in Physical Education, 1979. 76 p. (P.A. Beitel)

414. REID, A.S. The effect of time of introduction and amount of mental practice on the performance of the back roll extension. M.S. in Physical Education, 1979. 61 p. (P.A. Beitel)

415. WHEELER, F.H. The development of a procedure for the instructional cost analysis of physical education programs in higher education. Ed.D. in Physical Education, 1978. 133 p. (M.M. Phillips)

Administrators of 8 public 4 yr institutions in the state of TN supplied financial and scheduling data so that a Physical Educational Course Cost Analysis (PECCA) instrument could be constructed. Following an analysis of the data and the construction of the PECCA instrument, each of the 8 administrators received information regarding instructional costs for his courses and programs and was asked questions to determine the usefulness of the PECCA instrument. Based on the answers to the questions and an evaluation of additional comments made by the administrators, it was concluded that the PECCA instrument could be used to assist PE administrators in gaining a new perspective on the cost of instructional programs enabling them to determine the costs of operating and maintaining specific programs and courses within the department.

UNIVERSITY OF TOLEDO (J.N. Drowatsky)
TOLEDO, OHIO

416. DOUGLASS, Marilyn V. Behavioral and electro-physiological correlates of visual motor performance in normal and learning disabled boys. Ph.D. in Physical Education, 1978. 42 p. (J.N. Drowatzky)

62 children, ages 6, 7, and 8 were used to test the hypothesis that brain development, not age, is important for information processing in motor control. The children were evaluated on 3 intrasensory (IAS) and 2 intersensory (IES) and categorized by their performance on these tasks into high and low IAS and IES groups. All groups then performed a gross motor control task which consisted of 4 individual subroutines. Each subroutine required the processing of multisensory information. Learning occurred for all children. High IES children processed information sig faster and made sig fewer errors on the motor control task than did low IES children. There were no sig diff between the 2 IAS groups in performance of the motor control task. The high IES group was also the least variable of all groups. Since age distribution was similar in both IES groups, motor control may be related more directly to IES/brain development than to age.

417. JONES, Ralph E. Gross motor skill performance as a function of feedback quantity and location. Ph.D. in Physical Education, 1977. 43 p. (J.N. Drowatzky)

The purpose of this study was to determine the effect of the quantity and location of visual feedback (KR) cues (checkmarks) on gross motor performance (long jump). 28 male and 24 female university students were randomly assigned to 1 of 7 exp groups. Each group was trained with a different quantity and location of KR cues. The training consisted of 5 practice sessions, each of which required the S to complete 4 practice runs through an individually prescribed step pattern. Distance jumped and errors at takeoff were used to assess group effects. The Cochran test for heterogeneity of variance yielded a sig diff ($p < .01$) among the group variance for takeoff errors. ANOVA revealed no sig diff in distance jumped. No sig diff in takeoff errors was found with ANOVA. The sig diff among group variances lends support to the idea that KR results in more consistent performance. Further, the results seem to support the optimal level of KR precision theory. Skills having characteristics similar to those of the long jump appear to be suitable for the practical application of KR principles.

418. LEE, Kang-Pyung. The comparison of the effectiveness of muscular strength and power development through training programs with the external moment force pulley system and the free-weight training method using the slow and fast speeds of training. Ph.D. in Physical Education, 1978. 93 p. (J.N. Drowatzky)

25 SHS boys and 7 girls were randomly assigned to 4 groups receiving 3 training sessions per wk over a 7 wk period. Each S was tested for strength and power before and after the training program. ANCOVA indicated that fast rate of training produced greater improvement in knee extension strength ($p < .05$) and the external moment force pulley system with a fast rate of training produced the best gain in vertical jump performance ($p < .05$). All training programs improved muscular strength and produced mixed results with motor ability measures. Improvement was especially noticeable with 8 lb weight loads on the limb. The vertical jump performance was improved in all cases. It was concluded that any strength improvement in specific muscle groups can improve motor ability performance in activities requiring the use of those muscle groups. If the activity requires fast movement, then training must be performed at fast rate.

419. McGRATH, Sara M. Developmental changes in elementary school children's movement to intercept a moving object when ball trajectory is varied. Ed.D. in Physical Education, 1979. 132 p. (J.N. Drowatzky)

60 Ss (7, 9, 11 yrs), N = 20 boys and girls at each age level intercepted a tennis ball, projected from a Prince Ball machine,

after the bounce, using a sidearm striking pattern. The task required the S to detect direction and flight characteristics of the ball, predict the place of interception, form a response, and time his/her movements in order to make a successful interception. ANOVA with repeated measures was used to analyze the data. Independent group variables included age, sex, trajectory and trajectory sequence; dependent variables included 3 timing variables and 2 body position variables. RT was found to be influenced by trajectory; Ss responded faster to the short trajectory than to the long trajectory. Anticipation-coincidence time decreased as age increased, with the diffs in anticipation time diminishing as age increased. As age increased front-back deviation of body position from the "ideal" body position decreased. Trajectory by trial interaction for the front-back deviation variable indicated more individual trials appeared below the group mean for the long than the short trajectory. Horizontal deviation of body position was closer to the ball during both the long and the short trajectories than the mean "ideal" body position. Chi- square analysis indicated that striking performance over all and on the short and long trajectory was not independent of age. The youngest children's performance was characterized by a great number of attempts without ball contact while the 7 older groups performed with more contact and partial contact on their attempts. 9 yr old children performed better than both 7 and 11 yr olds. Boys performed better than girls, with disparity between sexes decreasing as age increased.

420. McLELLAN, Jeffrey C. Information processing ability of the cerebral palsied individual as a function of increasing age and stimulus complexity. Ph.D. in Physical Education, 1978. 49 p. (J.N. Drowatzky)
Spastic cerebral palsied (CP) and neurologically normal individuals, matched for ages 6 to 30 on abilities to process 4 levels of visual information and initiate movement were compared on reaction time (RT). Each group had 25 Ss and was divided into 5 equal age categories, each spanning 5 yrs. Simple RT, movement RT, 2-choice RT, and 3-choice RT were measured. Also recorded were MT, anticipation errors, and an intelligence score. Mental ability was not related to the RTs. ANOVA and trend analysis indicated that scores for the 4 RT conditions were diff; age trends were parallel; and the trends, except 2 choice RT, were quadratic. The CP Ss, 5 to 10 yrs, were slower than their normal peers, whereas after age 10 no diff were shown. The MT of the diff conditions were not diff for

the normal group. However, the CP group was slower than the normals on the MT of each task. Anticipation errors were not diff; 5 to 10 yr olds made more errors than the older age categories and the 5 to 20 yr old CP Ss made more errors than normal subjects. Results were interpreted to show that in spite of motor performance impairment, information processing ability in the spastic cerebral palsied is comparable to normal after age 10 for these tasks.

421. ROGERS, Burton L., Jr. The comparative effect of combining two types of training theories and training apparati on strength, girth and range of motion development of cervical spine and shoulder elevator musculature. Ed.D. in Physical Education, 1979. 182 p. (J.N. Drowatzky)
Based on initial strength levels, 54 Ss were placed into 1 of 4 training groups. The Ss trained 3 times per wk for 10 wks. The training apparati were the Pulley System and Nautilus, while the theories were the DeLorme and Nautilus. Following completion of the training regimen, Ss were post-tested and the results analyzed as follows. The SPSS computer program for ANCOVA with a covariate of pre-training strength and a 2 X 2 ANOVA were also used to analyze the data. Finally, a 3 X 4 ANOVA to determine the training effects on diff stength levels was utilized. All groups improved in muscular strength, girth and range of motion. When initial strength was considered, there was no diff between theory and apparatus on strength development and no interaction. All theories and apparati produced increases in strength, girth, and flexibility in the cervical region. Strength levels increased more rapidly on individuals that had lower strength levels prior to training. Strength level did not interact with either girth or flexibility.

422. THOMAS, Ralph M. The effects of knowledge of results upon motor skill performance of the trainable mentally retarded. Ph.D. in Physical Education, 1977. 107 p. (J.N. Drowatzky)
The purpose of this investigation was to explore whether or not the performance of trainable mentally retardates (TMR) on gross and fine motor skills would improve while receiving knowledge of results (KR) relating to their present performance. 50 TMR Ss were selected on a stratified random basis and randomly assigned to 1 of 5 conditions: control, verbal KR, visual KR, visual KR based on the best series performance, and verbal plus visual KR. 3 gross and 3 fine motor tasks, standing broad jump, speedtapping, Minnesota Rate of Manipulation Test, 20 yd

run, softball throw and reaction time (RT) were administered in one series of 10 trials each followed by a 2 trial retention of motor performance test 10 min later. One-way ANOVA and paired t-tests were applied for treatment effect and retention diffs by group and etiology. 3 sig treatment effects were found in the standing broad jump ($p<.01$), the 20 yd run ($p<.01$) and RT ($p<.01$). The verbal KR group produced the best overall performance of the treatment groups. Retention analyses revealed 1 sig ($p<.05$) improvement in performance on the speed-tapping task by the visual KR based on the best series performance group. The other sig improvement noted was by the control group on the Minnesota Test. It was concluded that TMR sig improved with receipt of verbal and visual KR; verbal KR was most effective in improving gross motor performance; KR did not sig affect retention of motor performance regardless of treatment of S's etiology.

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423. BLANCHARD, Cynthia Lee. The role of imagery in short-term motor memory. M.S. in Physical Education, 1979. 95 p. (B. Kerr)

Recent studies in short-term motor memory have consistently demonstrated a preselection advantage in the reproduction of motor movement; Ss who select their own movement or are given prior information about the criterion movement evidence greater reproduction accuracy than Ss who attempt to recall movements determined by the experimenter. The present study attempted to determine if imagery plays a sig role in mediating the preselection advantage. Students assessed as high and low imagers performed a linear short-term motor memory task. Half of each imagery group (high or low) was allowed to choose the movement to be performed and recalled, while the other half attempted to recall constrained movements chosen by the experimenter. The results shows that both high and low imagery Ss recalled preselected movements more accurately than constrained movements; however, neither the absolute error (AE) nor the variable error (VE) of high imagers differed sig from that of low imagery Ss, and imagery ability did not interact with type of movement presentation. Several possible explanations for these results are discussed in detail.

424. MOORE, Marjorie A. An electromyographic investigation of muscle stretching techniques. M.S. in Physical Education, 1979. 136 p. (R.S. Hutton)

Static contractions have recently been shown to briefly enhance myotatic reflexes. Since such contractions are often used as precursors to muscle stretch, functional neuromuscular rationale underlying these techniques was questioned and re-examined through electromyographic (EMG) recordings. Female gymnasts (N=21) performed 3 types of hamstring stretches: static (ST), contract-relax (CR), and contract-relax with agonist (hip flexors) contraction (CRAC). Hip joint angles and intraindividual EMGs were statistically compared across stretch conditions. In 12 Ss, CRAC stretch elicited sig greater hamstring EMG activity than the other techniques ($p < .05$). Although apparently increasing muscle stiffness, this stretch also produced the largest change in range of motion, followed by ST and CR methods. No sig diff in EMG activity across stretch conditions were found in Ss. Involuntary paroxysmal tremor activity was occasionally observed in records of most Ss at low levels of muscle activity.

UNIVERSITY OF WISCONSIN - LA CROSSE (N.K. Butts)
LA CROSSE, WISCONSIN

425. ALLEN, Terry J. Interpretation of diagnostic graded exercise tests on the basis of electrocardiographic, hemodynamic, and symptomatic responses. M.S. in Cardiac Rehabilitation/Adult Fitness, 1979. 67 p. (G. Porter)

The purpose of this investigation was to determine if a quantitative approach to interpreting diagnostic graded exercise tests (DGXT) could enhance the probability of predicting presence and severity of coronary artery disease (CAD). In an attempt to supplement the traditional ST segment criterion, hemodynamic, symptomatic, and additional ECG responses were included. An empirically devised treadmill score (TMS) formula based on GXT responses resulted in the calculation of a single TMS for 85 symptomatic patients who had both coronary angiography and a DGXT. The TMS method was successful in detecting coronary lesions $\geq 50\%$ with a sensitivity of 95%, specificity of 63% and predictive value of a positive test 87%. The true-negative rate was 83% and correct classification rate 86%. These values represent an increase in test accuracy of 3 - 25% when compared to the standard criteria (ST segment) for DGXT interpretation. The TMS method enhanced the ability to predict CAD severity, as supported by sig diff ($p < .05$) in TMS of 3 combinations of CAD severity sub-groupings. Thus, quantitatively interpreting the DGXT increases the accuracy of diagnosing presence and severity of CAD.

426. BARTSOKAS, Tom and ST. LOUIS, James. Industrial fitness programs in the United States: a 1979 status study. M.S. in Adult Fitness/Cardiac Rehabilitation, 1979. 103 p. (P.K. Wilson)
A questionnaire was designed to determine the status of the administration, organization, equipment and facilities of Industrial Fitness Programs (IFP's), and to accrue data on the content of each of these areas. 75 of the 206 members of the Am. Assoc. of Fitness Directors in Business and Industry surveyed were affiliated with corporations providing "in-house" facilities. 69 of these programs were analyzed and resulted in the following conclusions: more IFP's are provided through in-house facilities than any other means; corporations with in-house fitness programs employ predominately white collar workers, and male white collar workers account for the largest % of participants; the programs were administered primarily by 2 individuals, the medical director and the physical fitness specialist; aerobic conditioning was included in all programs, and strength training was provided in 72% of the programs; and, participant education was available in 81% of the programs, and informational lectures were given monthly.

427. BEIER, Barbara J. An assessment of the effectiveness of an educational program on wellness attitudes and behaviors of tenth grade students. M.S. in School Health Education, 1979. 114 p. (R. Papenfuss)
A Wellness Behavior Inventory (WBI) and a wellness educational program were developed and implemented to determine the effectiveness of an educational program in changing 10th grade students' attitudes and behaviors concerning wellness. Hoyt's ANOVA was used to calculate reliability of the WBI. Statistical analysis of data from control group pretest scores resulted in an r of .82 for the WBI. Exp (N=24) and control (N=24) Ss completed an Attitudinal Inventory of Wellness (AIW) (Williamson, 1978) and the WBI developed by the researcher, as a pretest, 4 wks later as a posttest, and after an additional 4 wks as a post-posttest. The exp group participated in the 4 wk, 800 min. educational program between the pretests and posttests, whereas the control group received no intervening treatment. Groups were matched by age, IQ and sex. The Mann-Whitney U-test was used to determine if change scores were sig. ($\angle$.01 level). Results indicated exp. group gain score values between

pretesting and posttesting, and between pretesting and posttesting on the AIW were sig ($p < .01$); exp group gain score values between pretesting and posttesting, and between pretesting and post-testting on the WBI were sig ($p < .01$). Thus, the researcher concluded that the educational program was effective in enhancing positive attitudes and behaviors toward wellness for 10th grade students.

428. BISSEN, Cassandra A. The study of the development of a reasonable record retention management system for St. Francis Hospital. M.S. in Community Health Education, 1979. 59 p. (G. Gilmore)

429. BRANDT, Susan E. A study of the opinions of hearing-impaired students and their physical educators towards integrating the hearing-impaired students in physical education classes. M.S. in Physical Education - Handicapped, 1979. 109 p. (L.A. Goodwin)

430. CASABONNE, Andre J. A history of boys' interscholastic athletics at Cashton High School, Cashton, Wisconsin. M.S. in Physical Education, 1979. 99 p. (R. Batchelder)

431. COLLIER, Eugene, J. The order effect and its applicability to the 1978 WIAA State Girl's Class B Gymnastics Meet. M.S. in Physical Education, 1979. 26 p. (W. Kaufman)

432. DICKSON, Jacqueline J. Selected dimensions influencing the sport participation of seventh-grade students. M.S. in Physical Education, 1979. 78 p. (J. Greenlee)

6 sociological factors, as well as timing accuracy, were investigated to determine differences among male and female sports participants and non-participants. Ss were 60 7th grade students (15 male and 15 female participants and non-participants). The Sport Participation Inventory (SPI) contained questions on the following factors influencing sport participation: family; socio-economic factors; personal values; role models; peers and siblings; and, physical characteristic scores. In addition, a timing accuracy task requiring Ss to respond to a series of lights moving down a track was utilized. 6 trials were randomly ordered with scores recorded in .001 sec. The Hewlett-Packard Time-Shared Basic computer program was utilized to determine group diffs in the 6 sociological factors as well as timing accuracy. Sig diffs between participants and non-participants

were found to exist on influences from family, personal values, peers and siblings, physical characteristic scores, and socio-economic factors. Role models did not have a differential effect. Male and female Ss were not diff on any of the SPI factors. The timing accuracy scores indicated a sig diff between males and females, regardless of their participation status, with males having greater accuracy. By ranking the selected factors according to their entry into the regression statement, ranked scores indicated that family, socio-economic factors, and personal values had the greatest impact on participation when all groups were considered together. Although these 3 factors had the greatest impact across the groups, the order of entry varied for each of the 4 groups.

433. DIROLF, Maryrose C. A comparison of perceptual-motor integrational levels in normal versus learning disabled children. M.S. in Physical Education for the Handicapped, 1979. 78 p. (L.A. Goodwin)

434. DOLL, Nancy E. Ratings of perceived exertion at similar oxygen consumption levels with varying treadmill protocols. M.S. in Adult Fitness/Cardiac Rehabilitation, 1979. 82 p. (N.K. Butts)

30 male students and faculty members performed 8 volitional max VO_2 treadmill (TM) tests. The speed of each test was held constant while the elevation was raised 2% every 3 min. Test speeds were 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, and 5.0 mph. At 3 min stages, data recorded were HR, BP, V_e, VO_2ml/kg/min and RPE. Results showed that test performance was influenced by TM speed and elevation and the amount of habitual exercise. A linear relationship was found between HR and RPE and between VO_2 and RPE. High correlations between HR, BP, RPE, V_e VO_2 L/min, VO_2ml/kg/min, VCO_2 L/min, METs, RER, and RPP were all sig ($p < .01$). Through a stepwise regression analysis using VO_2 as the dependent variable, a prediction equation was generated with V_e and HR V_e accounted for 87% of the variability of VO_2. An ANOVA and Neuman-Keul's test found sig ($p < .01$) diffs in RPE at similar VO_2 levels with various TM speeds and evaluations. Even small diffs in speed and elevation for the same VO_2 could be detected in terms of perception of stress. It was concluded that selection of speed and elevation that elicit the lowest RPE for a particular workload or VO_2 level would offer the optimum protocol to allow a S to work towards a target level with the greatest physiological and psychological comfort.

435. DONATELLE, Rebecca J. A comparison between the attitudes and communication patterns of parents regarding sex education and the knowledge and attitudes of their 9th grade children in a medium sized rural Wisconsin school. M.S. in Health Education, 1979. 85 p. (K.C. Becker)
117 9th grade students were given a 4 part questionnaire, dealing with knowledge, attitudes, communication about sexual topics, and sources of sexual knowledge. Their parents were given a 3 part questionnaire, dealing with attitudes, communication about sexual topics and perceived sources of student sexual information. The Mann-Whitney U Test and Spearman's Rho correlation were used to make comparisons between groups. Results indicated that there was no sig relationship between parental attitudes and communication patterns and the knowledges and attitudes of their adolescent children. Friends were viewed as being the greatest sources of sexual knowledge transmission, followed by schools, movies and television, magazines, and mothers. It was indicated that fathers played almost no role in the sexual education of their children.

436. ENGSBERG, Jack R. An analysis of the location of the takeoff foot in the pole vault. M.S. in Physical Education, 1979. 51 p. (R. Jones)
This study observed cinematographically, the takeoff step in the pole vault. 38 vaults ranging from 13.5 ft to 15.0 ft taken from 10 Ss were analyzed. Films were taken at 100 fps during 4 indoor track meets held at the University of WI-La Crosse Fieldhouse. Horizontal distance from the top hand to the toe of the takeoff foot was correlated with the perpendicular distance from the center of gravity of the vaulter to the pole and with the diff in velocities from takeoff foot touchdown to takeoff foot liftoff. The Pearson r was not sig for either relationship ($p > .05$).

437. ENNIS, Virginia Kaster. Effects of an educational program on smoking in teenage girls. M.S. in Health Education, 1979. 152 p. (J.D. Curtis)

438. GEHLING, William D. A survey of selected elementary school physical education programs in the State of Wisconsin. M.S. in Physical Education, 1949. 95 p. (V. Van Atta)
A random sample (N=138) of the 614 K-6 schools in WI was drawn to determine the status of ELE PE and to make comparisons of these programs based on school enrollment. The 31 questions

used covered 11 areas of the PE programs. It was found that 65% of the schools used a K-6-3-3 organizational pattern; 61% of the Ss offered intramurals; 43% did not require health examinations; all schools responding offered some form of PE program, with the classroom teacher being gradually replaced by a full-time PE instructor as the person responsible for the program as the grade level increased; the principal was the most common supervisor of PE teachers; pupil progress was evaluated increasingly as grade levels increased, with 86% of the Ss using some sort of evaluation by grade 6; 85% of the Ss had some form of curriculum guide; 62% had gyms for usage; 66% had in-service training; and, not nearly as many schools offered extra-class activities for girls as they did for boys in 197[illegible].

439. HEIDEMAN, Michael D. A study of the WIAA and WISAA to determine the feasibility of forming one association. M.S. in Physical Education, 1979. 80 p. (W. Kaufman)

440. HEWITT, Mary E. Religion and cancer: an evaluation study of a cancer residency for clergy. M.S. in Community Health Education, 1979. 114 p. (G. Gilmore)

441. HOVEN, Neil A. A survey and redesign of the 40 meter ski jump at Ely, Minnesota. M.S. in Physical Education, 1979. 21 p. (W.S. Kaufman)

442. IGNAGNI, Patricia. A comparison study of the maximal aerobic capacity of children with and without innocent heart murmurs. M.S. Adult Fitness/Cardiac Rehabilitation, 1979. 65 p. (P.K. Wilson)

Data were collected on 15 children diagnosed with an innocent heart murmur and 15 children aged and sex-matched to the murmur group as selected from a local ELE school. The testing utilized the Bruce treadmill protocol to help assess VO_2 max, HR and endurance time. The procedures included pre-test interviews, motivational techniques and a test criteria for the attainment of "true" VO_2 max. The results indicated normal responses to the max exercise testing with limited re-test evaluations necessary. There were no sig diff in weight, HR and endurance time. The procedures included pre-test interviews, motivational techniques and a test criteria for the attainment of "true" VO_2 max. The results indicated normal responses to the max exercise testing with limited re-test evaluations necessary. There were no sig diff in weight, HR and endurance time ($p > .05$). There was a sig diff ($p < .05$) in VO_2 max, with the children diagnosed with an innocent murmur attaining a higher mean VO_2 max than those of the paired control group. No cardiovascular impairment in children with innocent murmurs in their ability to perform high levels of work was found. This information is recommended to be used in the avoidance of restricting children with innocent heart murmurs from participation in physical activities and in the attainment of personal life insurance.

443. ISELIN, Walter C., Jr. The effect of programmed relaxation exercises on the shooting of basketball freethrows. M.S. in Physical Education, 1979. 53 p. (K. Toburen)
The effectiveness of programmed relaxation exercises in conjunction with mental practice (MP) on the performance of shooting BB freethrows was investigated. Ss were (N=24) female intercollegiate BB players from the University of WI-La Crosse. Audio tapes were utilized for the administration of 2 parts of the study: the MP section and the programmed relaxation exercises. Ss in the exp group participated in 10 sessions of relaxation training combined with mental and physical practice. Ss in the control group experienced 10 sessions with only mental and physical practice. An ANCOVA, with the pre-test being used as the covariate, was utilized. Results indicated a sig ($p < .05$) difference in the performance of shooting freethrows by female intercollegiate BB players who participated in the programmed relaxation exercise and those not using relaxation.

444. JENSON, Davis G. Determination of body density in prepubescent males, age 7 - 11. M.S. in Adult Fitness/Cardiac Rehabilitation, 1979. 57 p. (R. Moss)
A reliable technique for determining body density in prepubescent males, age 7 - 11 was sought. Reliability was assessed by test-retest of 41 prepubescent males ($\bar{X}$ age = 9.3 yrs, SD ± 1.2). A $\bar{X}$ body density value of 1.053 gm/cc (SD ± .011) was found during both trials. A correlated t test revealed no sig diff ($p > .05$) between the 2 trials. A correlation of .99 was also observed between body density values of trial 1 and trial 2. Validity was established by hydrostatically weighing 21 college-age students ($\bar{X}$ age = 20.7 yrs, SD ± 1.4) using both the standard technique and proposed modification. Mean body density values of 1.056 gm/cc (SD ± .017) were found by these 2 techniques. A correlated t test revealed no sig diff between the 2 methods. A correlation of 1.00 between the body density values obtained by the 2 techniques was also reported.

445. KAHRS, Stephen J. Cardiovascular, physiological and anthropometric status of the participants in the La Crosse Cardiac Rehabilitation Program over a one year's period. M.S. in Adult Fitness/Cardiac Rehabilitation, 1979. 57 p. (G. Porter)

Resting HR; resting systolic and diastolic blood pressure; body wt; % body fat, serum cholesterol levels; and, HR, systolic blood pressure and rate-pressure product at submax levels of exertion were measured on 57 participants from the Cardiac Rehabilitation Unit (CRU) who had been diagnosed by a physician as having one of the following dysfunctions of the cardiovascular sustem: post-myocardial infarction; post-bypass surgery; documented coronary artery disease; or, were prone to coronary artery dease. All Ss participated in the CRU for at least 1 yr's time and met 3 times/wk for structured exercise sessions on: stationary bicycling, swimming, walking, and jogging. Each S was evaluated 4 times throughout the yr's period, as follows: pre-pool test, at entrance into the CRU; post-pool test, administered after 3 mo in the pool phase and prior to the beginning track phase; the post-beginning track test after 6 mo. of participation and prior to entrance into the advanced track; and, the advanced track test after 12 mo. of participation. ANOVA for repeated measures and a Scheffé' "post-hoc" test were used to compare phases. After a yr's training sig decreases in resting HR and systolic and diastolic blood pressure in hypertensive Ss; HR and rate-pressure product responses at the 2.0 MET exercise level; and, % body fat and body wt. were observed.

446. KERNS, Donell M. Masturbation: Attitudes and behaviors of a select group of women students at the University of Wisconsin-La Crosse. M.S. in Community Health Education, 1979. 60 p. (K. Becker)

An attitude and behavior questionnaire was developed to survey 217 women students at the UW-La Crosse regarding masturbation. 20 questions were attitudinal (Likert) and 21 were behavior and background data questions. Hoyt's ANOVA revealed an r of .79 on the attitude section of the questionnaire during a sample analysis of 20 Ss. A Chi Square Test revealed a sig ($p < .05$) positive association between attitudes and behaviors. The Kruskal-Wallis I-Way ANOVA revealed sig diff ($p < .05$) between respondents when their attitudes were compared with whether or not they had ever masturbated. Using a Mann-Whitney U Test, women who had masturbated as a child, an adult, or both were shown to hold more liberal attitudes toward masturbation than women who had never masturbated. Of the 217 Ss, 63.5%

had and/or were still masturbating, while 33.5% reported never having masturbating. Of the Ss who had masturbated, about 50% reported some bad feelings associated with it as a child and 25% reported those bad feelings as an adult. The majority of the Ss were 18-20 years old, white, moderately or slightly religious, heterosexual women. The total mean score on the attitude questions equaled 74.5 out of the possible range of 20 to 100, indicating a somewhat liberal attitude toward masturbation.

447. KOVAL, Mary J. A physical assessment program model for physically handicapped individuals. M.S. in Physical Education-Handicapped, 1979. 109 p. (L.A. Goodwin)

448. LAMBRECHT, Keith W. A statewide survey of athletic directors' salaries, duties and responsibilities in Wisconsin Class "A" and "B" high schools. M.S. in Physical Education, 1979. 59 p. (W.S. Kaufman)

Questionnaires were mailed to 245 athletic directors (AD) in WI Class "A" and "B" high schools. The findings, based on 202 responses (82.44% return), appear to warrant the following conclusions: AD's in Class "B" schools have more teaching and coaching responsibilities than AD's in Class "A" schools; therefore, AD's in Class "A" schools can devote more time to their athletic directing duties. AD's salaries are not paid uniformly; each is paid according to his/her own situation. The questionnaire used in this study is a valid list of duties and responsibilities pertaining to athletic administration and could be used as a master checklist for the evaluation of an AD's performance.

449. LAWSON, H. Dutch. A survey of competitive athletics for young children in the LaCrosse, Wisconsin, area. M.S. in Physical Education, 1978. 81 p. (W.D. Van Atta)

450. LEADLEY, Kathleen M. A survey of the public schools in the state of Wisconsin in meeting the mandates of P.L. 94-142 as it applies to physical education. M.S. in Physical Education-Handicapped, 1979. 50 p. (L.A. Goodwin)

451. LEPORE, Monica Patricia. The effects of a corrective exercise program on the posture of mentally retarded adults. M.S. in Physical Education-Handicapped, 1979. 62 p. (L.A. Goodwin)

452. LLOYD, Joyce L. Planning a multi-purpose swimming facility. M.S. in Physical Education, 1979. 105 p. (W.S. Kaufman)

453. MARKEL, Frank P. A cinematographical analysis of the college men's mile run during competition. M.S. in Physical Education, 1979. 32 p. (P. Esten)
The purpose of this investigation was to describe and compare selected mechanical characteristics of the running patterns of the finalists in the Men's Mile Run at the W.S.U.C. Outdoor Conference Tract Meet. A pilot study was conducted in order to develop procedures and analysis of data. The 7 finalists filmed were from the Universities of Wisconsin: Eau Claire, La Crosse, Platteville, Stevens Point and Whitewater. The conclusions were: stride length and stride frequency may be an important factor in determining finishing places of runners; and, the correlation of non-support and support time to determine finishing places was not sig ($p > .05$).

454. MILLER, Douglas C. A comparative study of the forward pass of college quarterbacks, with and without protective equipment. M.S. in Physical Education, 1979. 48 p. (N.K. Butts)
The preparatory and action phases of the forward pass in football were analyzed for U.W. - La Crosse quarterbacks (N=6) under 2 conditions, with and without protective equipment. Cinematography was used with the speed of the film at 200 fps. The Ss all threw at the same filming session for both conditions. Random selection with replacement was used to determine the condition the Ss threw under first. Data were collected through the use of a Numonics 1224 Digitizer and processed through the FILMDAT program. These data were then analyzed using a dependent t test. There were no sig diff in the angle of the upper arm at the beginning of the preparatory phase, the time interval for the preparatory and action phases, the angle of the elbow at release, and the height of release. There was a sig ($p < .05$) diff in the angle of maximum layback.

455. MITTELSTADT, Mary E. Difference in motor performance on four figure-ground variations of a gross motor task by MDD Children. M.S. in Physical Education-Handicapped, 1979. 67 p. (L.A. Goodwin)

456. O'BRIEN, Steven R. Biorhythms and their effect on gymnastics performance. M.S. in School of Physical Education, 1979. 23 p. (W.S. Kaufman)

457. PALMER, Susan Ann. A survey of teaching methods and styles used in elementary physical education in the schools in La Crosse, Wisconsin. M.S. in Physical Education, 1979. 80 p. (W.Van Atta)

458. RICHARDSON, Holly J. The effect of the menstrual cycle on maximal oxygen uptake. M.S. in Adult Fitness/Cardiac Rehabilitation, 1979. 59 p. (R. Moss)

21 graduate and undergraduate women were given 4 VO_2 max tests during 4 phases of the menstrual cycle. The following specific days were used as test days during the cycle: pre-flow phase, 2 days prior to the onset of menstruation; flow phase 2 days after the onset of menstruation; post-flow, 4 days after the cessation of the flow; and the intermediate phase, 12 days after the cessation of the menstrual flow. On these specific days the Ss were given VO_2 max tests while the following variables were measured: V_E; VO_2 (ml/min.) and (ml/kg-min.); time on the treadmill; and % grade. An ANOVA was used to determine if there were sig diff in the VO_2 max. during the 4 phases of the menstrual cycle. No sig diff ($p > .05$) was found among the VO_2 max values throughout the 4 phases of the menstrual cycle.

459. ROE, Donna V. The effects of a limited unit in nutrition education within a health survey 366-101 course at the University of Wisconsin-Stout on nutrition knowledge and breakfast eating. M.S. in Health Education, 1979. 49 p. (J. Leary)

460. SOUCEK, Mary K. A comparison for effectiveness of two blood pressure screening programs -- mass screening vs. periodic mobile screening. M.S. in Health Education, 1979. 48 p. (W. Chen)

461. STOUT, Susan T. A comparison of the relationships between ratings of perceived exertion and selected physiological variables during exercise in men and women. M.S. in Physical Education, 1979. 62 p. (N.K. Butts)

Relationships between perceived exertion (RPE) and 4 physiological variables (HR, V_I, RR, and Tre) were compared during exercise between 14 male and 14 female students from the UW - La Crosse. Each S participated in 2 max voluntary work tests on a motor driven treadmill. RPE, HR, V_I, RR, and Tre were measured every 3 min and at max. The last test was used for data analyses. HR, V_I, RR, and Tre were compared in absolute units (a) and in percentages of max (%) to RPE. Relationships between RPE and each independent variable were established through correlation coefficients and regression lines. The correlation coefficients, regression lines, and group means at max were compared for sig between groups. Sig r's ($p < .001$) were found for all 8 pairs of correlated variables (aHr-RPE; %HR-RPE; aV_I-RPE; $\%V_I$-RPE; aRR-RPE; %RR-RPE; aTre-RPE; %Tre-RPE). There were no sig diff ($p > .05$) in any of the correlations between groups; however, sig diff were found between groups in the slopes of the regression lines representing the relationships between aV_I-RPE, aTre-RPE, and %Tre-RPE. Sig diffs were also found in the mean V_I at max in men and women.

462. STRATHMAN, Timothy. *The effect of age, coronary heart disease, and hypertension on the hemodynamic response to treadmill exercise*. M.S. in Adult Fitness/Cardiac Rehabilitation, 1979. 65 p. (P.K. Wilson)

The purpose of this study was two-fold. The first was designed to develop normative data for the hemodynamic adjustments precipitated during the performance of a Graded Exercise Test (GXT). The 243 Ss were grouped by age in decade, sex, and presence of hypertension (HT), systolic blood pressure (SBP), diastolic blood pressure (DBP) and rate pressure product (RPP). The second part investigated the variations in hemodynamic responses in the same Ss when grouped by: negative GXT, positive GXT, postmyocardial infarction (PMI) or postcoronary bypass surgery (PS). An ANOVA showed no sig ($P > .05$) diff between the groups for any of the measured variables, at any time during the exercise test.

463. THORNBERG, Janice L. *Survey of the attitudes of superintendents, school board presidents, and principals toward health education by school district size*. M.S. in Health Education, 1979. 52 p. (K. Becker)

An attitude toward HE questionnaire was developed to determine and compare the attitudes of superintendents, school board presidents, and principals. The sample population consisted of superintendents, school board presidents, and principals in a stratified random sample of 80 school districts. The school districts were stratified according to enrollment size. A total of 258 Ss were mailed questionnaires and a 77% (199) return of mailed questionnaires was obtained. The data were analyzed using a two-way ANOVA, unequal cell frequency, and a one-way ANOVA, unequal cell frequency ($p < .05$). A Scheffé post-hoc test was used to locate mean scores where a sig diff was revealed from the one-way ANOVA. A sig ($p < .05$) diff was found between the attitudes of principals and school board presidents toward HE. There was no sig ($p > .05$) diff between the attitudes of superintendents and principals or superintendents and school board presidents. The attitudes of superintendents, principals, and school board presidents do not vary according to school district size. It was concluded that principals have a sig more positive attitude toward HE than do school board presidents.

464. TILLOTSON, Suzanne C. The relationship between selected strength variables of the Kraus-Weber Test to the postural alignment of elementary school girls in grades 4 through 6. M.S. in Physical Education for the Handicapped, 1979. 51 p. (L.A. Goodwin)

465. TLACHAC, Kristine. The development of patient education tools for cardiac rehabilitation. M.S. in Adult Fitness/Cardiac Rehabilitation, 1979. 93 p. (G. Porter)

466. TOLKACZ, Donald E. The development of a handbook for the athletic director at Hillsboro High School. M.S. in Physical Education, 1979. 52 p. (W.S. Kaufman)

467. WIESJAHN, Otto L. A study of parental attitudes toward intramural and interscholastic tackle football in the Waukesha Middle Schools. M.S. in Physical Education, 1979. 34 p. (W.S. Kaufman)

468. WILDA, Julie A. A sequentially patterned motor rhythms program model for mentally handicapped populations. M.S. in Physical Education-Handicapped, 1979. 80 p. (L.A. Goodwin)

469. WOLF, Frederick S. Archery. M.S. in Physical Education, 1979. 41 p. (W.S. Kaufman)

UNIVERSITY OF WISCONSIN-MADISON (J.G. Wolf)
MADISON, WISCONSIN

470. DEMAREST, Stephen. Abstract of movement responses of 4 3-month old infants to prone submersion. M.S. in Physical Education, 1978. 100 p. (L.E. Halverson).

4 infants ranging in age from 3 mos - 8 days to 3 mos - 27 days were submerged in water in a prone position 4 to 8 trials in succession. The high speed film (64 fps) of both an overhead and underwater view was studied, and the movement was described

in relation to the framework for movement observation. The selected descriptions of observed movement were compared and contrasted over trials of each S, as well as over all trials between individuals. Conclusions were: 3 of 4 children were consistent in their movement response over their trials; among the 4 Ss studied, there were 2 patterns of commonality of movement response; the movement response of all 4 Ss could be classified into McGraw's disorganized phase of swim development; multiple trials and 2 diff camera views were necessary to accurately represent infant movement response to prone summersion; and the movements of each child over trials were less variable than expected.

471. DIEWART, Gordon L. The role of space and time parameters in the perception of proprioception-based movement velocity. Ph.D. in Physical Education, 1979, 110 p. (G.E. Stelmach)

Although recent work has examined the perception of velocity by the visual system, little work has been conducted on velocity perception by the proprioceptive system. Current research and theories have suggested that velocity information may be perceived directly in terms of appropriate receptors, or may be perceived based on some type of computational process related to perception of space and time. A series of 3 exps were conducted to investigate how proprioceptive information arising from finger and hand movement was related to known perceptual theory. Exp 1 sought to determine the appropriate model for velocity information related to finger movements. Passive movements were tested under diff combinations of time and space on a positioning task requiring binomial discrimination. The results indicated that a computational model best explained velocity perception but this perceptual mechanism appeared to operate at less than 100% efficiency. The 2nd exp attempted to test the generality of the model confirmed in exp 1. A test was conducted on wrist movements for one of the space/time combinations already examined. Although perception of spatial information was less accurate, the generality of the computational model was retained. Exp 3 considered the possibility that a change in muscle activity may alter the perceptual process in operation. The results clearly demonstrated that muscular activity had little or no effect on the applicability of the computational model. The experimental findings from all 3 exps were discussed in terms of contemporary psychomotor and perceptual theory. Overall, a case was made for a computational perceptual mechanism subserving the transformation of proprioceptive signals into velocity information, a situation different from a large amount of work on visual perception.

472. HEINKEL, JoEllyn. Leadership responsibilities of the supervisor for girls' interscholastic athletics in Wisconsin. M.S. in Physical Education, 1979. 125 p. (M. Weber)

The purposes were: to identify the adm tasks currently being performed by the Girls Supervisor; to identify the adm tasks which the Girls Supervisor would prefer to perform; to compare the actual adm tasks performed with the preferred adm tasks identified by women currently holding the title of Girls Supervisor; and to determine if the preferred task identification of the Girls Supervisor parallels the state and national leadership demands for greater control by women of girls' athletic programs. 192 Girls Supervisors from WI responded by mail to an Administrative Task Information Questionnaire. The results indicated: the position of Girls Supervisor incorporates no primary responsibility, and only moderate secondary responsibility; the Girls Supervisors do not desire greater primary responsibility; they do desire slightly greater secondary responsibility; the actual task identification of the Girls Supervisor is non-programmed task oriented for secondary responsibility only; the preferred task identification is both programmed and non-programmed for secondary responsibility only, and the preferred task identification of the Girls Supervisor does not parallel the state and national leadership demands for more control by women of girls' interscholastic athletic programs.

473. HORSWILL, Craig A. An investigation of the correlation between success in college wrestlers and the physiological capacities: maximum aerobic power, maximum anaerobic power, and dynamic endurance. M.S. in Physical Education, 1979. 50 p. (J.P. Mullin)

31 members of the 1978-79 UW-Madison wrestling team were evaluated for success in wrestling, (VO_2 max), max anaerobic power (as horsepower and as units of ml $O_2/kg \cdot min^{-1}$) and upper body dynamic endurance. The success of each wrestler was defined by a performance index (P.I.) based on performance in 2 early season tournaments. VO_2 max was measured by analyzing the expired gas collected during a progressive work load, running treadmill test. Max anaerobic power was measured by a modified Margaria stair test and analyzed as horsepower and as ml $O_2/kg \cdot min^{-1}$ (to remove influence of bodyweight). Dynamic

endurance was measured with a bench press test in which each S performed a max number of bench presses with 65% of bodyweight. The P.I. was regressed against combinations of the physiological capacities. The combination of VO_2 max, max anaerobic power (HP) and dynamic endurance showed a sig r with wrestling performance (r=.49). However, this combination only accounted for 24% of the variance. Of each individual capacity, dynamic endurance had the strongest positive r with wrestling performance (r=.32) (10% of variance). It was concluded that the VO_2 max, HP, and upper body dynamic endurance contribute sig to the success of college wrestlers, but other variables (skill, experience and psychological factors) may have an even greater influence on wrestling success.

474. KOGA, Shunsaku. Effects of age on thermal response to immersion during rest and exercise. M.S. in Physical Education, 1979. 70 p. (W.G. Reddan)

The effects of age on the temp response to immersion in varying water temp (27, 31 and 35°C) were examined in 5 young (27-31 yrs) and 5 older men (62-81 yrs). Rectal (Tr), skin (Ts) temps and steady-state cardiopulmonary responses were compared in both groups during head-out immersion for 1 hr at rest and during work on a cycle ergometer (VO_2, 0.7-0.9 l/min). At rest Tr reached equilibrium in 35°C but progressively fell in 31°C and 27°C water in both groups. The younger Ss exhibited a greater fall in Tr with a higher VO_2 in 27°C water. The resultant heat loss was related to individual level of insulation (% fat) rather than age per se. During exercise in 35°C, Tr again reached equilibrium at 20', then increased in both groups. In contrast to rest, exercise Tr was maintained in both groups in 31°C water. Although exercise Tr fell as at rest in both groups in 27°C, the decrease was greater in the young. However, as at rest, the fall of Tr was related to % fat and not to age, in spite of the greater work stress in the old (40-60% MAP) compared to the young (15-30% MAP). When heat production was subsequently increased in the young (40-60% MAP) Tr was either maintained or slightly increased in 27°C. It was concluded that at equivalent levels of fat insulation, the metabolic and temperature adjustments to cold water stress in older men were comparable to younger men at rest and during moderate exercise.

475. LAVOIE, Jean-Marc. Histological and biochemical study of skeletal muscle of swimmers, and the effects of a training program in water on these parameters. Ph.D. in Physical Education, 1979. 142 p. (F.J. Nagle)

A group of 10 Canadian world class (5 males, 5 females) and 14 recreational swimmers (6 males, 8 females) were evaluated for triceps brachii muscle fiber composition, fiber area, and succinate dehydrogenase (SDH) and phosphofructokinase (PFK) activities before and after a 6 mo training period and an 8 wk training program, respectively. VO_2 max, max HR, and max blood lactate production were also measured, using a swimming test, before and after training. No diffs were found in fiber type distribution among groups nor between pre- and post-training values. Cross-sectional areas of the muscle fibers of elite swimmers showed hypertrophy of both FT (male: 15,551 um^2; female: 8,979 um^2) and ST fibers (male: 11,552 um^2; female: 6,950 um^2) as compared to normal values. Folowing training, only the FT fiber area of the female elite group was increased sig. Absolute increases in FT surface area were more pronounced for male recreational swimmers (pre: 12,072 to 14,952 um^2) as compared to female recreational swimmers (pre: 7,985; post 9,650 um^2). A sig increase in SDH (8.3 to 27.3 umole/g/min) and PFK (15.6 to 36.6 umole/g/min) activities was observed for elite swimmers following training, but not for recreational swimmers. Following training, an increase in VO_2 max was observed in the elite and recreational swimming groups, whereas a decrease in the max HR was observed only in the elite group. Increased FT fiber surface areas, SDH and PFK activity, and VO_2 max indicate that swim training stimulates a skeletal muscle adaptation that results in increased capacities in both aerobic and anaerobic metabolism

476. LEMON, Peter W.R. L - [1 - ^{14}C] Leucine oxidation during rest and exercise. Ph.D. in Physical Education, 1979. 46 p. (F.J. Nagle)

Contrary to classic belief recent evidence suggests an active amino acid utilization during prolonged exercise. The purpose of the present investigation was to attempt to quantitate the role of the amino acid leucine (leu) as an exercise energy substrate in the rat. Exp 1. Following ingestion of a diet containing a tracer dose of L - [1 - ^{14}C] leu rats (N=32) were subjected to 1 of 3 conditions: 1) rest (R), 1 hr exercise at ii) $\sim 80\%$ VO_2 max (E_{80}), or iii) $\sim 40\%$ VO_2 max (E_{40}). 6 hr. leu oxidation estimated by a $^{14}CO_2$ production, b) $^{14}CO_2$ production $\cdot$ liver specific activity $(SA)^{-1}$ and c) $^{14}CO_2$ production $\cdot$ skeletal muscle SA^{-1} and diet absorption rate from the gastrointestinal tract (GIT) were measured. Results were: $^{14}CO_2$ production increased in both E_{80} and E_{40} compared with R ($p < .05$); $^{14}CO_2$ increase was greater at the higher metabolic rate ($p < .05$);

$^{14}CO_2$ increase at 0.5 hr of exercise was greater than that at 1 hr ($p < .05$); GIT absorption was reduced in E_{80} and E_{40} compared with R ($p < .05$); $^{14}CO_2$ production was decreased at rest in E_{80} when compared with E_{40} or R ($p < .05$); and leu oxidation from method b and c was increased in E_{80} and E_{40} compared with R but to a lesser extent than the $^{14}CO_2$ production would suggest. Exp 2. Following ingestion of a diet containing a tracer dose of L - [1 - ^{14}C] leu rats (N=13) ran as in E_{80} (above). On the subsequent 2 days the rats were fed unlabelled diet prior to the same exercise. 72 hr leu oxidation ($^{14}CO_2$ production), GIT absorption rate and % of the label in free vs. protein bound pool of muscle and liver were determined. Results were: compared to rest an increased $^{14}CO_2$ production of similar magnitude to Exp 1 was observed on all 3 days ($p < .05$); 98.1 - 99.3% of the consumed label was absorbed by day 3; and activity in the free pool of both muscle and liver represented only ~2.3-13.9% of the total $^{14}CO_2$ production. It was concluded that leu oxidation increases with exercise and that the source of leu oxidation probably comes from both free and protein bound pools.

477. LENNON, Joseph X. The effects of crowding and observation of athletic events on spectator tendency toward aggressive behavior. M.S. in Physical Education, 1979. 46 p. (F.C. Hatfield).

The purpose was to assess the effects of crowding and the type of sport viewed (aggressive/non-aggressive) on the tendency for behavioral manifestation of spectator violence. Ss were 48 undergraduates, 24 in a crowded condition and 24 in a non-crowded condition. Each of these conditions was further divided, with 12 students viewing a football film and 12 students viewing a gymnastics film. Both films were 10 min long. Following the film, each student completed the Zaks-Walter (1959) aggression scale. The data failed to demonstrate any relationship between crowding and aggression. Viewing the football film, however, was shown to increase S aggression levels.

478. MIHEVIC, Patricia M. Sensory information, perceived exertion, and self monitoring during exercise. Ph.D. in Physical Education, 1979. 425 p. (W.P. Morgan)

The purpose of this investigation was to identify the sensory information consciously monitored by the individual during exercise which underlies perception of effort and the ability to discriminate among exercise intensities. Female and male college students were randomly assigned to either a low or high baseline exercise condition for a bicycle ergometer task based on 45 or 65% of predicted VO_2 max. 2 min exercise periods at the baseline intensity were alternated with periods at discrimination workloads representing increments or decrements of 100, 200, and 300 kpm from baseline introduced in random order. Ratings of overall perceived exertion (RPE) as well as RPE based on sensations from above the waist (central) and below the waist (local) were obtained when the S indicated perception of a workload change as well as during the final 30 sec of each workload. 50% of the Ss failed to perceptually respond to one or more changes in exercise intensity. Discrimination times of responders for workload changes of 100 kpm were sig higher than for changes of 200 and 300 kpm, but did not differ for the high and low intensity conditions or between men and women. HR response was comparable immediately prior to and coincident with perception of a change in exercise intensity. Discrimination times for the female and male samples were not related to the psychometric variables of tension, depression, vigor, fatigue, and somatic perception. RPE indicated that men and women weighted local and central somatic cues differentially as a function of exercise intensity. HR response was not consistent with the pattern of overall and central perceptual ratings. The perceptual results were consistent with self report data obtained during the post-exercise.

479. MOSS, Stephen T. The relationship between aggressivity, tolerance of ambiguity and primary sport involvement. M.S. in Physical Education, 1979. 48 p. (F.C. Hatfield) Madison Public Schools.

Ss were 103 male college athletes from football, crew, wrestling and weightlifting. 3 questionnaires were administered to the Ss pertaining to preferred sport pursuits, aggressivity level (Zaks-Walters Aggressivity Scale, 1959), and level of tolerance of ambiguity (Budner's Scale for Tolerance of Ambiguity, 1962). The data were analyzed by means of discriminant function analyses and ANOVA. A nonsig diff was found in the aggressivity levels of athletes in all 4 sports, while a sig diff was noted between the football players and crew members, and between the football players and weightlifters' levels of tolerance of ambiguity. All other comparisons were nonsig. The present evidence suggests that football players differ from crew members and weightlifters in their levels of tolerance of ambiguity, with the football players possessing the lowest levels of tolerance. Theoretical and practical issues stemming from these findings are discussed.

480. MUNNS, Kathleen M. The effects of a 12 week exercise and dance program on the range of joint motion of elderly subjects. M.S. in Physical Education, 1979. 100 p. (L.E. Halverson)

A specific exercise and dance program was designed to improve the range of joint motion in elderly Ss. 20 exp Ss ($\bar{X}$ age = 71.8 yrs) and 20 control Ss ($\bar{X}$ age = 73 yrs), all of northeastern Dane County, were pre-tested on 6 single joint actions: neck (flexion and extension), wrist (flexion and extension), shoulder (adduction and abduction), hip and lower back (flexion and extension), knee (flexion and extension) and ankle (flexion and extension). The Leighton Flexometer was used to measure single joint actions. The $\bar{X}$ range of pre-test joint motion scores (using Hotelling's T^2) was not sig diff ($p > .01$). The exp group participated in the exercise and dance program which met for 1 hr, 3 times/wk, for 12 wks. Control Ss received no treatment. Overall post test group $\bar{X}$'s, combining all 6 variables, were sig diff ($p < .01$). The $\bar{X}$ of each of the 6 measurement variables were also sig diff ($p < .01$). The program experienced a 0% attrition rate and attendance was excellent throughout the 12 wks. Exp Ss indicated an increased comfort in movement and an improvement in the performance of daily life activities.

481. PRUETT, Diane. The study of the relationship of Isadora Duncan to the musical composers and mentors who influenced her musical selections for choreography. Ph.D. in Dance. 1978. 309 p. (M.A. Brennan)

482. SCHULZ, Karen E. Maximal oxygen uptake and lung function in cigarette smokers and non-smokers of high school age. M.S. in Physical Education, 1979. 50 p. (J.P. Mullin)

The present investigation evaluated the effects of cigarette smoking on physical work capacity and the degree of small airways resistance in the lungs of SHS age students. 58 Ss, 29 smokers and 29 non-smokers, exercised to max on a bicycle ergometer. Expired gas was collected during the last 2 min of work, analyzed for O_2 and CO_2 content, and VE was measured in a gasometer. There was no sig diff in VO_2 max in lm/kg x min^{-1} between the male smokers and non-smokers (smokers: 49.2; nonsmokers 52.4) due to the large variability in the groups. Max HR was sig lower in smoking males ($p < .03$). In the females VO_2 max in ml/kg x min^{-1} was sig diff ($p < .02$) (smokers: 36.4; non smokers: 39.4). Endurance time and max HR were also sig lower in the female smokers. The response to breathing a mixture of 80% helium and 20% oxygen (He-O_2) during a max expiratory flow-volume (MEFV) maneuver was measured in 10 smokers and 10 non-smokers using a spirometer. By measuring the change in flow between the 2 gases and the point of isoflow vol, it was seen that the smokers tended to show an increase in the amount of small airways resistance; however, these diff were not sig.

483. SCHULTZ, Suzanne M. Kinematic parameters of gait in active and inactive older women: an exploratory study. M.S. in Physical Education, 1978. 115 p. (L.E. Halverson)

The study contributed baseline (in addition to temporal distance measures) data on the gait of the older adult, and added new information on the angular velocity and angular acceleration of the left lower extremity. This study also described the activity level of the Ss under investigation. 15 women filled out physical activity questionnaires and were subsequently interviewed. The number of hrs per week spent in physical activity and the physical work (work metabolic rate/basal metabolic rate) associated with each activity were determined. 15 women were ranked on the basis of these 2 factors, with the 2 most active and the 2 least active selected for filming. Stride length, walking speed, swing-to-stance ratio, and cadence were taken from the film and compared with existing research. Additionally, a kinematic analysis was then completed on the left lower extremity at the hip, knee, and ankle joints. Angular displacement data at each joint was curve fitted utilizing a cubic spline function with the concomitant 1st and 2nd derivatives printed and graphed by a UW-MACC Computing Center program. Temporal-distance results indicated that the Ss were within the range of the older Ss of other gait research. Although a similar pattern in angular displacement, velocity, and acceleration seemed to occur among the Ss, the relative contributions of each parameter to each joint differed greatly. Each S showed a pronounced individuality in the lower extremity gait pattern. Active Ss displayed a greater degree of angular displacement, velocity, and acceleration at the hip joint during the 1st wave of hip joint extension; a possible greater angular displacement and velocity at the knee joint during the 1st wave of knee joint extension. The inactive Ss displayed a possible greater ankle joint acceleration from heel strike to foot flat.

484. SCOTILLO, Christine M. The role of movement description in criticism as a significant factor in developing a dance literature. M.S. in Dance, 1978. 101 p. (M.A. Brennan)
The role of criticism in developing dance literature, the role of movement description as a contributing factor vital to other dance studies, and the quality of movement description in contemporary criticism were analyzed. The views of selected authorities are examined to determine the relationship of dance criticism to dance literature, and the importance of movement description in criticism. A general analysis of the writings of Arlene Croce, Marcia B. Siegel and Deborah Jowitt was included to provide a sense of the state of contemporary criticism. The writings of these critics were selected because each attracts a large readership and has published a collection of criticism from the past 10 yrs. The writings of these critics as well as those of Nancy Goldner and Don McDonagh, on 3 dances, Divertimento from Baiser de la Fee (Balanchine), Deuce Coupe (Tharp), and Drumming (Dean) are discussed to compare the amount and quality of movement description available in contemporary criticism. The study concludes with a general statement concerning the nature of contemporary criticism as it reflects the relationship of criticism to dance literature. The focus of this study is not a historical view of dance criticism, but an investigation of current critical practices to determine if these practices are satisfactorily fulfilling the needs of dance literature.

485. STEIN, Janet Billette. Personality perception in coaching women's athletics and its relationship to contest success. M.S. in Physical Education, 1979. 64 p. (R.A. Boyd [C & I] and W.P. Morgan)
This investigation evaluated the ability of coaches to describe their athletes' perceptions of themselves in terms of Erickson's Ego Stage Theory, and the relationship of this perceptive process with team success in the sport of volleyball. It was hypothesized that successful coaches would show a higher degree of congruency than unsuccessful coaches between their descriptions of their players' own descriptions of their perceptions in terms of their psychosocial development. 9 SHS girls' volleyball coaches in the Badger and Southern Wisconsin Conferences, and 3 players from each of the teams served as Ss for the purpose of computing congruency scores. Rankings of the 9 coaches on their congruency scores were compared with the records of the 9 teams, and the correlation was found to be -0.20 which was not sig. 7 of the 9 coaches, however, were

found to be quite accurate in describing their players. This suggests that other factors such as skill level must be incorporated into prediction models employed in athletics.

486. WILLIAMS, Kathleen. Developmental characteristics of a forward roll. M.S. in Physical Education, 1979. 145 p. (L.E. Halverson)
A category system of developmental characteristics for the forward roll, modeled after Roberton's (1977) component approach, was hypothesized for this study. 3 components were defined: hand/arm, head/neck, hip/leg. Within each component were phases describing initial to late rolling actions. Within each component phase were hierarchically arranged steps, ordered from primitive to advanced. Other purposes included examining the validity of the hypothesized components by comparing them against characteristics of a sample of children; identifying the relationship between steps within component phases and age and sex of the children; and identifying recurring sequences of steps within across-component profiles. The results were based on cinematographic analyses of 243 filmed trials of the forward roll performed by 5-, 7- and 9-yr old children (N=49). Each age group was equated by sex (N=8), except for 9-yr old boys (N=9). Age-related diffs approximated a probabilistic developmental model in 5 of the 7 component phases. Lower steps occurred most often at youngest ages. The occurrence of primitive steps decreased with age. Higher steps rarely occurred in younger children. Older children were categorized at higher levels of component phases more often; lower steps were exhibited much less frequently. Steps within the remaining 2 component phases were apparently misordered. Younger children sometimes demonstrated steps hypothesized to characterize higher level behaviors more often than older Ss. No sex diffs were found within this sample.

487. YEATES, Marilyn Edith. An examination of 3 criterion-referenced reliability estimation procedures using motor performance data. Ph.D. in Physical Education, 1979. 147 p. (M.J. Safrit)
The purpose of this study was to investigate the characteristics of 2 reliability indices (proportion of agreement and kappa) as estimation procedure (Huynh, Subkoviak, and Swaminathan-Hambleton-Algina), test length (5, 10, 15 and 20 trials), and cut-off standard (20, 40, 60 and 80%) were varied. Data were collected from 189 women volunteers at UW - Madison for the modified Liba and Stauff VB pass test and a BB free throw test in a

test-retest situation. All single administration analyses were conducted using the data from the first testing session. Data from both tasks fit the beta-binomial distribution assumptions for the Huynh procedure. All 3 estimates of the raw proportion of agreement, P, were similar in magnitude. The anticipated U-shaped function was apparent as the cut-off location changed. The magnitude of the reliability estimates increased along with test length and, for this sample, the largest increase occurred between the 5 and 10 trial test lengths. For a random sample of 30, chosen to represent the typical size of the PE class, the estimates exhibited more deviation but were relatively close to the parameter value. The second reliability index, kappa, was determined using the Huynh and Swaminathan-Hambleton-Algina procedures. The average diffs between the 2 estimated values were larger than found with P but these results were not surprising. Larger samples are required to obtain stable estimates of kappa than are necessary for P. In general, the expected patterns were present; an inverted U function resulted as the cut-off changed, and the magnitude increased along with test length. The estimates from the smaller sample exhibited greater deviation from the parameter values than found for P. The results did not deviate greatly from those found with written test scores. However, more extensive investigation, using repeated sampling, is needed to determine whether the diffs noted in this study are real or a function of the sample used.

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
BLACKSBURG, VIRGINIA (M.L. Driscoll)

488. ANDREW, Nancy A. An investigation of two teaching approaches in elementary school physical education college methods courses. Ed.D. in Supervision, 1978. 71 p. (M.L. Driscoll)

This study employed 43 Ss: 17 in the lecture-discussion group and 26 in the laboratory-activity section. Both classes were taught by the same instructor with identical course outlines, objectives, assignments, textbooks, and tests. ANOVA revealed no sig diff between the lecture-discussion and the laboratory-activity approach to teaching college level methods courses in ELE school PE; there was no indication which solely supported one teaching style over the other.

489. BELL, George H., Jr. The effects of two breathing patterns on selected physiological parameters during a simulated 200 yard freestyle in male swimmers. Ed.D. in Administration, 1978. 68 p. (W.G. Herbert)

Ss were 10 male adolescent and young adults. A comparison of VO_2, blood lactic acid (LA), ventilation (VE) and the respiratory exchange ratio (RQ) response to a timed swim were made under two experimental breathing conditions: in condition 1, Ss swam breathing once every arm cycle and in condition 2, Ss swam breathing every alternate arm cycle. Expired air and ventilation were collected and measured using gas analysis procedures. Blood samples were collected and LA concentration was determined using blood lactic procedures. The data analysis revealed the following: there was sig diff in the physiological variables as a result of the breathing patterns; under condition 2, VE was found to be more related than any other dependent variable; between conditions it was found that the breathing pattern associated with each condition was not related to changes in VO_2. The findings suggested that breathing on alternate strokes was associated with lower energy requirements than breathing every stroke.

490. BLAYLOCK, Larry P. An evaluation of the organization and administration of interscholastic athletics in the AAA public senior high schools of the Commonwealth of Virginia. Ed.D. in Educational Administration, 1978. 114 p. (W.E. McCubbin - M.L. Driscoll)

This investigation surveyed 5 levels of administration including 98 principals, 98 ADs, 70 assistant ADs, 35 chief school administrators and 70 board members (N=371). Returns were received from 336, with 328 being usable. ANOVA revealed sig diffs of opinion among the various levels of administration as to whether a supplemental public high school athletic association in their region would improve the organization and administration of the interscholastic athletic program, and whether the organization and administration is inadequate in governing the interscholastic athletic program. Moreover, a sig diff of opinion exists among the administrators concerning whether students should have input about decisions pertaining to the organization and administration of high school athletics.

491. GREINER, Stephen G. An evaluation of attitudes about an undergraduate recreation field work training program in a selected four-year curriculum. Ed.D. in Educational Supervision, 1978. 128 p. (G.A. Hayes)

Ss included 40 undergraduate Rec majors doing field work and the 40 Rec agency supervisors. 20 Ss in the exp group received a training program and 20 control Ss received no training. Attitudes were analyzed through the use of a field work preparation questionnaire, using an adapted Likert Method of Summated Ratings Scale. Data were evaluated schematically on a revised Weber Model of Educational Evaluation and revealed the following: sig diff do occur between student and control groups in their attitudes about the relative effectiveness, approval of, and usability of the respective field work preparation programs; sig diff were found on 17 of the 18 attitude items between the Rec agency supervisor exp and control groups.

492. HOEFT, Thea M. The effect of leisure counseling upon selected attitudes of potential cardiac clients. Ed.D. in Educational Supervision, 1979. 196 p. (G.A. Hayes)
The study investigated whether McDowell's model had a sig effect on the client's leisure attitudes, work attitudes, work self-concept, leisure self-concept and leisure satisfaction. 13 Ss were assigned to the exp group, 13 control. The counseling extended over a 3 mo period. The data analysis revealed the following: leisure counseling as a component of cardiac rehabilitation/intervention programs using McDowell's model was found to be neither effective or ineffective. The model was reported to have positively increased the client's leisure self-concept and leisure satisfaction.

493. KING, Carl N. An ergographic comparison of isometric and isokinetic elbow flexion under different biomechanical load conditions. Ed.D. in Supervision, 1979. 87 p. (W.G. Herbert)
The Ss (N=21) performed two maximal isometric contractions, under both Isometric A and Isometric B load conditions at each of 6 joint angles. Each S performed 2 maximal isokinetic type contractions under both Isokinetic A and Isokinetic B load conditions. The A load conditions allowed the length of the true resistance arm to vary from joint angle to joint angle. The B load condition mechanically held constant the length of the true resistance arm from joint angle to joint angle. Each load condition was examined at 160°, 140°, 120°, 100°, 80°, and 60° of elbow flexion. The data analysis revealed: for each specific load condition by angle there was a statistically sig variation between the $\bar{X}$ torque values at all levels of elbow flexion except 120°; torque values for all Isometric load conditions were always higher than their Isokinetic counterparts

at the same joint angles; sig variations in torque between the Isometric load conditions were only found at 120° of elbow flexion; torque curves for all Isometric and Isokinetic load conditions were of the inverted U type; torque values were lowest at 160° of elbow flexion, gradually increased to a peak value at 120° and decreased until 60° of elbow flexion was reached.

494. MIELE, Sandra D. The relationship of selective affective, cognitive, physiological, and psychomotor evaluative criteria to success in a physical education student teaching experience. Ed.D. in Educational Supervision, 1979. 141 p. (M.L. Driscoll)

The relationship between a successful PE student teaching experience and 9 evaluative measures was investigated using 23 senior PE student teachers. The evaluative measures were the MTAI, Berger's Acceptance of Self and Others Test, the Missouri College English Test, overall and method GPA, run for time, anthropometric measures, and cooperating teacher evaluation forms. A multiple regression analysis indicated that success in student teaching was related to the independent variables with R^2 ranging from .37 to .70. All the regression equations were sig ($p < .05$). The results indicated no diff existed between the male and female PE student teachers except for a diff in responses to the MTAI and overall GPA. The multiple regression analysis results indicated that the best practical regression equation was Berger's Acceptance of Self.

495. MURPHY, Margaret G. Talking difficulty as a cue in the determination of stress levels for exercise training effects. Ph.D. in Educational Research and Evaluation, 1979. 79 p. (M.L. Driscoll)

This investigation attempted to determine the ability of adult males (N=21) to replicate pre-trial target performance on a treadmill at 3 different speeds when using perceived talking difficulty as the primary cue. Physical measures used for comparison were HR, VO_2 and RQ. Determinations of replicatory accuracy were based upon diffs between those values during the pre-trial and those obtained during 3 subsequent exp trials. Stress levels were determined for each S at 60%, 75% and 85% of HR reserve. The study also examined the use of phonation analysis to qualify talking difficulty. Total time and % phonation were examined for validity and reliability in reflecting physiological stress. The results indicated the Ss were able to approximate targets when using perceived talking difficulty as a primary cue. The objective measures of talking difficulty were found to be neither valid nor reliable.

496. SHEA, Charles H. Effects of extended practice on the control of coincident timing tasks. Ph.D. in Educational Research and Evaluation, 1978, 99 p. (W.G. Herbert)
The study investigated the extent to which movement time (MT) and practice influenced usage of feedback by Ss to make corrections in the spatial-temporal movement pattern of coincident timing responses. Male and female Ss (N=24) watched a .01 sec timer and attempted to knock over a barrier at the precise moment that the sweep hand reached a target position. All Ss were given 100 trials on each of 4 consecutive days. Schmidt's index of preprogramming was calculated for each S each day, and the spatial-temporal pattern of the response was characterized by segmental MT and variability. The results indicated that the index of preprogramming increased as instructed MT decreased but remained stable throughout all trials. The spatial-temporal pattern of the movement was found to fluctuate as instructed MT increased but remained stable over practice.

497. TAYLOR, Charles D. An electromyographic-cinematographic analysis of the tennis serve. Ed.D. in Educational Administration, 1978. 136 p. (D. Sebolt)
The investigation observed the extent of muscular involvement of the anterior deltoid, middle deltoid, posterior deltoid, and tricep muscle of 10 male varsity tennis players as they performed the twist, slice and flat tennis serve. Electromyography (EMG) was used to determine the quantity of muscular involvement as each S performed 36 randomized serving trials. Cinematography synchronized with EMG instrumentation was employed to provide the identification of types of serves and the specific racket velocity of each serving trial. ANCOVA and Duncan's Multiple Range Test were used to compare the 3 serves relative to each muscle under investigation. No sig diff in the EMG responses of the anterior deltoid, middle deltoid, and posterior deltoid muscles were noted in the performance of the twist, slice, and flat serves; sig diff in EMG response of the triceps muscle was found in the performance of the 3 serves; sig diff in muscle action potential were recorded between the twist and slice serve and the twist and flat serve; and no sig diff in EMG response was found between the slice and flat serve.

498. WADE, Glenn R. The relationship between landscape preference and looking time: a methodological investigation. Ed.D. in Educational Supervision, 1978. 132 p. (G.A. Hayes)

100 Ss viewed 10 slides of natural landscapes. A random sample of 25 of the original Ss ranked the same landscape simulations 1 mo later. The relationship between looking time and preference rank was analyzed with the 100 Ss through summary statistics, frequency distributions, and r. A test to point out the relationship among average looking times and the agreement between the rankings of the 100 Ss and the 25 Ss were computed. It was found that the average looking time for all slides was 7.02 sec; looking-time frequencies varied greatly with the majority of the 100 Ss (from 2 to 11 sec). There appeared to be no relationship between looking time and preference rank for natural landscapes and little variability among the average looking times for the slides for all Ss was noted.

WEST VIRGINIA UNIVERSITY (A. Ostrow)
MORGANTOWN, WEST VIRGINIA

499. BROOKS, Dana DeMarco. A comparison of recruitment networks between various high schools in West Virginia. Ed.D. in Physical Education, 1979. 360 p. (W. Alsop)

500. ELKINS, Nancy. An analysis of the developmental tasks of kicking a ball in a straight line according to Piagetian Theory. Ed.D. in Physical Education, 1979. 188 p. (P. Fehl)

501. ETZEL, Edward Fredrick, Jr. Validation of a conceptual model characterizing attention among international rifle shooters. M.S. in Physical Education, 1979. 56 p. (A. Ostrow)

502. JONES, Dianne C. The relationship of sex-role orientations to stereotypes held for female athletes in selected sports. Ed.D. in Physical Education, 1979. 150 p. (A. Ostrow)

503. POOLMAN, Leslie John. Career alternatives in physical education: a future study. Ed.D. in Physical Education, 1979. 300 p. (J. Douglas)

504. ROWE, Deryl Glenn. Effects of walking and jogging on the body composition and cardiorespiratory system of adults. Ed.D. in Physical Education, 1979. 80 p. (R. Kurucz)

505. SMITH, Wayne J. Comparison of thermoregulatory responses in conditioned males and females upon exposure to exercise and thermal stress. M.S. in Physical Education, 1979. 70 P. (R. Yeater)

506. SURGENT, Frederick C. The effect of manual manipulation on the acquisition of three selected tumbling skills as a function of age. Ed.D. in Physical Education, 1978. 110 p. (R. Wiegand)

507. TROTTO, Mary Catherine. The effects of submaximal and maximal workloads on the fibrinolytic activity of long distance runners. Ed.D. in Physical Education, 1978, 94 p. (R. Kurucz)

WESTERN ILLINOIS UNIVERSITY (R. Aten - R. Gedney)
MACOMB, ILLINOIS

508. CEDERBLAD, Timothy A. A study of values test of selected college football and rugby players. M.S. in Physical Education, 1979. 52 p. (W. Lakie)

Scores in 6 categories of the Allport-Vernon-Lindzey Study of Values--Theoretical, Economic, Aesthetic, Social, Political and Religious were used in a comparison between rugby players and college football players. There were ($N=43$) rugby players from 2 private clubs and ($N=75$) football players from 5 private colleges and 1 university, all from Illinois. ANCOVA was employed to analyze the Theoretical, Social and Religious categories because of a relationship of scores with age. ANOVA was utilized to analyze the Aesthetic, Economic and Political values. The difference between the mean Theoretical scores of the 2 groups was sig ($p < .001$), rugby Ss scoring higher. The difference between the mean Social scores of the 2 groups was sig ($p < .01$), football Ss scoring higher. The difference between the mean Religious scores of the 2 groups was sig ($p < .05$), the football Ss scoring higher. The difference between the mean Aesthetic scores of the 2 groups was sig ($p < .05$), the rugby Ss scoring higher. Neither the Economic or the Political mean scores of the 2 groups was sig ($p > .05$). The rugby players showed a greater tendency toward those characteristics associated with the Aesthetic and Theoretical men: an interest in reason and the discovery of truth; a value of form and harmony; and an interest in what is useful. On the other hand, the football players showed more similarities with the characteristics of the Social and Religious men, who value unity, love of people, and an interest in power.

509. CHILES, B. The construction of a video tape to train officials for girls' basketball at the high school level. M.S. in Physical Education, 1979. 65 p. (A. Loftin)
A video tape and test guide which would aid officials in recognizing fouls and violations in SHS girls' basketball games using NFR was produced. To determine what calls Illinois SHS Girls' Basketball Officials most frequently misjudge, a questionnaire was sent to the coaches of the 32 final teams in the 1977 Illinois Girls' State Basketball Tournament Series. The results served to determine what game situations were included in the final tape. Westmer SHS Varsity Girls' Basketball Team participated in the filming procedure. Dressed in home and away uniforms, they scrimmaged for an hour and a half without officials. Video tape cameras at 2 positions recorded the action. The video tape was edited into 22 situations in which the official viewing the tape was asked to make a decision. A test guide was written for the official.

510. CREEK, P.A. The self concept of selected women athletes at Western Illinois University. M.S. in Physical Education, 1979. 181 p. (B. Yeager and K. Pearson)
The self concept of selected women athletes at WIU, in order to compile a descriptive profile of the group and of individual Ss, was examined. The 9 Ss were randomly selected as follows: the varsity women athletes were identified by their coaches from the eligibility list; any duplication of names because of varsity status on more than 1 sport was eliminated, and 10 names were randomly selected from the ensuing list. Due to illness, 1 S did not complete the testing. Ss were administered the following tests: Cattell's 16 PF Test, TSCS, Kuhn's 20 Statements Test, and an interview based on an adapted version of a questionnaire developed by a DGWS research committe. The tests were selected in order to provide an in-depth analysis and cross comparison of resulting data. It was concluded that the selected female athletes at WIU, who comprised the test group were average in comparison to college female norms and average compared with the norms for the general population with respect to self concept.

511. EVERARD, P.A. The development of a movement program and its effect on selected educable mentally retarded students. M.S. in Physical Education, 1979. 130 p. (J.A. Robertson - C. Colvin)

The effectiveness of a program in movement offered to a class of EMR children, ages 6 to 9 yrs, at the University School in Macomb, Illinois was evaluated. Data necessary to assess the effectiveness of a 9 wk program for the 5 children were collected by means of a Subject Characteristic Questionnaire, a Pre- and Post-Movement Checklist, and an anecdotal daily record of the children. A case study approach was used in the analysis. The movement program consisted of daily lessons utilizing movement problems relating to the 4 aspects of movement. The study revealed that a 9 wk program was effective in movement development. The researcher was able to identify that a positive learning-result can be achieved in the personal finding of a movement-response. Sometimes it can be deduced from the speed at which the learning-result is brought about and, finally, in the pleasure the child takes in his playing and moving.

512. HENNEGAN, K.A. A comparison between grade point average of athletes who competed with and those who competed without academic eligibility rules. M.S. in Physical Education, 1979. 50 p. (K. Pearson)

Ss were 119 secondary school female interscholastic athletes with soph, jr, or sr class status who participated on the varsity volleyball, basketball, and/or golf interscholastic teams. 39 of the Ss in the study attended 2 public SHS with academic eligibility rules, 53 of the Ss attended 2 private SHS with academic eligibility rules, and 27 of the Ss attended 2 private SHS without academic eligibility rules. Both in-season GPA and out-of-season GPA were collected for each S and the Scheffé method of post hoc comparison were used. It was found that Ss from both public and private SHS having academic eligibility rules obtained higher GPA than Ss from a private SHS without academic eligibility rules.

513. JAMES, Walter R. Positive mental attitude development trends within selected undergraduate physical education coaching courses at selected institutions. M.S. in Physical Education, 1979. 42 p. (G. Hermann - B. (Yeager)

128 college instructors from 10 institutions were surveyed to determine the extent to which positive mental attitude trends were included in professional undergraduate preparation of

potential male and female coaches. The data were collected by means of a 25 item questionnaire. It was found that the instructors of the courses surveyed were aware of positive mental attitude development in athletics, but little was being done to specifically promote its development. The content of professional preparation coaching courses included certain components of positive mental attitude development, but there was not a strong tendency to develop it in an overall way. The instructors of the courses surveyed exhibited a belief that attitude plays a major role in successful athletic performance, but they felt that they were doing a less than adequate job in preparing their students to work with athletes on a psychological basis.

514. LAIRD, Dean E. Soccer injuries at Western Illinois University and nationally for the 1978 soccer season. M.S. in Physical Education, 1979. 93 p. (G. Hermann)
Intercollegiate soccer injuries sustained at Western Illinois University (WIU) were compared to national norms reported by the National Athletic Injury/Illness Reporting System (NAIRS) for the 1978 season. Frequency, severity and body part injured were investigated. Ipsilateral and bilateral leg strength ratios of the WIU soccer team were also determined. It was found that the lower extremities were the site of most soccer injuries. In addition, a significant leg strength imbalance was found in the majority (75%) of WIU soccer players. It was concluded that soccer players at WIU had a lower overall injury rate per 1,000 athlete exposures than the national norms. It was also determined that soccer is a relatively safe sport in regard to head, neck and spinal injuries, as no such severe injuries were reported locally or nationally.

515. LANTZ, Victor R. Electrocardiography characteristics of long distance runners. M.S. in Physical Education, 1978. 54 p. (P. Hutinger)
13 distance runners who were in a high state of cardiorespiratory fitness and were members of a HS or college cross country or track team within the past year were used to identify different types of irregular patterns found in ECGs taken at rest, during recovery, and while running on a treadmill. Each subject was given a pre test 12-lead resting ECG. After the maximum test the Ss rested for 5 min and were given a post test 12 lead ECG. A physician confirmed the following unusual characteristics: large P waves, j junction, ta waves, S-T elevation, Sinus Arrythia. high and low voltage, first degree A-V block, Sinus bradycardia, and Sinus tachycardia. The large P waves

were the most common characteristic. In the pre-run tracings, there were 61 occurrences, and in the post-run tracings, there were 57. The maximum HR achieved was 201 bpm, the lowest was 173. The criteria for determining the characteristics showed that the irregularities were not pathological in nature because of the runners' ability to achieve a high stress level, and the ability to train at a high level each day.

516. McCALLISTER, M.P. A comparison of the effects of three bicycle ergometer work modes on heart rate and blood pressure response to isometric arm contractions. M.S. in Physical Education, 1979. 83 p. (C.J. Cohen)
16 female Ss completed 3 diff bicycle ergometer work tasks, each at a work load of 600 kpm/min. Test A was a standard bicycle ergometer ride. In Test B, a 20% maximal handgrip contraction was sustained. In Test C, the Ss rode without hands on the handlebars in order to eliminate isometric contractions entirely. Physiological variables measured included HR, systolic BP, diastolic BP, and pulse pressure. Each S was retested on all tests to establish reliability. ANOVA with a repeated measures factorial design was used. A sig increase ($p < .0047$) in HR, and systolic BP was found in Test B. Test C had the next highest levels of HR and BP. The results showed that the HR and BP of young healthy women increase sig when a moderately low handgrip contraction is introduced during exercise. It was concluded, therefore, that these handgrip contractions could be harmful to persons with impaired health or cardiovascular function.

517. MOORE, S. E. A comparison of the body composition and selected components of motor and physiological fitness of female dancers and softball players. M.S. in Physical Education, 1979. 68 p. (C.J. Cohen)
Ss for the study were female softball players, (N=14), female jazz dancers, (N=14), and female control students (N=13). Tests selected to assess motor fitness were the sit and reach and the vertical power jump tests. Body composition was determined by underwater weighing. A running treadmill test was used to judge physiological fitness. Data were analyzed utilizing ANOVA and the Scheffé Post-Hoc Comparison Test. The softball players demonstrated sig greater endurance than the jazz dancers and the control Ss. The jazz dancers demonstrated greater flexibility than the softball players, and the control group demonstrated greater flexibility than the softball players. There were no differences among the 3 groups in % body fat.

518. NAGLE, J. A history of the department of physical education for women at Western Illinois University. M.S. in Physical Education, 1979. 60 p. (A. Loftin)
The Dept of PE for Women at WIU had its roots in a "division" of State Normal School called Physical Culture with 1 instructor and 1 course. The administrative structure of the dept when the staff consisted of 3 or 4 women was informal, with the staff members and dept head discussing matters and making final decisions. During the final years studied the Dept used a committee structure in their decision-making process. Prior to 1912, only 1 course was offered in the area of Physical Culture and every female college student was required to take it. The 1912-13 school year was the first year that courses were offered for women wishing to specialize in PE. The first 4-year curriculum was begun in 1917. Competitive, interschool sports existed during the early years and again in the latter years. The WAS played a large role, sponsoring intramural competition, hikes, picnics and dance programs

519. OSBOURNE, Rick. Competition and the ultimate athletic experience: a phenomenological approach. M.S. in Physical Education, 1979. 50 p. (K. Pearson)
It has been hypothesized that the perfect moment in the athletic experience is most likely to occur at a time when the athlete is not focused on the competitive aspect of the activity in which he is involved. A review of literature, including 6 authors who had previously analyzed the ultimate athletic experience, as well as material discussing phenomenology, was included in the paper. Special attention was given to the treatment of competition by the 6 authors, and it was concluded that all but one seemed to uphold the hypothesis. The remaining 21 sources of data from the literature were then presented in the form of first-hand experiential descriptions and analyzed in accordance with a definition of competition presented by the researcher. It was found that 16 of the descriptions supported the hypothesis and 5 did not.

520. RULEY, A.M. The effects of isotonic and isokinetic training on the vertical jump performance of female intercollegiate basketball players. M.S. in Physical Education, 1979. 40 p. (C.J. Cohen)
Female intercollegiate basketball players (N=24) were randomly divided into 2 training groups. Group 1 trained isokinetically, utilizing the Leaper, 3 days/wk, for 8 wks. They performed 3 sets of 10 repetitions of squat extensions at a speed setting

of 2 ft per sec. The isotonic training Ss (Group 2) used the Universal Gym on the same schedule, but performed 3 sets of 5 to 7 RM. Group 3, the control group, were field hockey team members. ANOVA with repeated measures was utilized. There were no sig diff among the 3 groups in vertical jump performance. A sig interaction within the groups over time showed sig improvement in vertical jump performance following 4 weeks of training. This analysis also indicated a statistically sig de-training effect following a 4-week post-training period. A trend analysis indicated an overall diff in performance between the groups, and a tendency of the Ss in all groups to change as a function of the trials. Isokinetic and isotonic training sig affected the vertical jump performance of the basketball players in both training groups.

521. SHEEHAN, K. The effect of athletic participation and sex difference on the self-concept of deaf adolescents. M.S. in Physical Education, 1979. 50 p. (J.A. Robertson)

Male and female deaf adolescents (N=60) at the Illinois School for the Deaf were divided into 4 groups (N-15): female athletes, female non-athletes, male athletes, and male non-athletes. 30 athletes were randomly selected from volleyball, basketball, and track and field. The Martinek-Zaichkowsky Self-Concept Scale for Children was chosen because it is a non-verbal, cultural free test and, therefore, would not be biased against the deaf population. ANOVA revealed no sig diffs among the 4 groups. Participation in athletics and sex diff neither enhanced nor diminished the self-concept.

522. STUPPY, C.A. The effect of ankle taping and wrapping on range of motion of the ankle joint. M.S. in Physical Education, 1979. 45 p. (J.A. Robertson)

Ss were volunteer interscholastic athletes (N=30) with no history of ankle injury. Ss were randomly placed in 3 groups (N=10): Group 1 had both ankles taped; Group 2 had both ankles wrapped; and Group 3 had no restriction. The taping technique was a preventive taping technique for inversion sprains approved by the NATA and commonly used at East Stroudsburg State College, in East Stroudsburg, Pennsylvania. The wrapping technique, which made use of a non-elastic cloth wrap, is commonly known as the "Louisiana Heel Lock". Ss performed an exercise bout designed to simulate typical game-type situations which place stress on the ankle joint. ANOVA with repeated measures and the Scheffé Test for post hoc comparisons were utilized. There was no sig diff between the 2 strapping techniques, but both were more effective in restricting the range of motion than the control group.

523. VAN SCHAACK, Kenneth C. A comparison of selected personality traits of collegiate male soccer players. M.S. in Physical Education, 1979. 42 p. (G. Hermann)
A comparison of personality differences of offensive and defensive players and starters and nonstarters who competed in soccer at Western Illinois University was conducted during the 1978 soccer season. The Cattell 16 P-F was administered to 25 Ss, 13 starters and 12 nonstarters. 13 players were offensive and 12 defensive. The results of the t tests showed that nonstarters were significantly more shrewd than starters ($p < .05$). No sig diff on any of the 16 factors were found between offensive and defensive players.

524. WERNSTEDT, C.A. A study of adapted physical education for exceptional junior high school boys and girls in sixty randomly selected schools in Pennsylvania. M.S. in Physical Education, 1979. 48 p. (J.A. Robertson)
Questionnaires were mailed to 60 JHS PE Dept heads. The respondents were requested to ascertain the no. and classification of exceptional students; whether the school had an adaptive PE program; the content; the method used for placement; location of the complete medical history; and the extent of special training of the staff. 42 schools (70%) responded. The study revealed that 12.9% of the students were classified as exceptional, with the most prominent classification being obesity followed by low physical fitness. Most of the exceptional students participated in the regular PE program, as few shcools indicated that they had an adaptive program. The most popular activities were team sports, gymnastics, physical fitness and track and field. Only 33% of the schools were satisfied with present procedures.

525. WHEELER, D.A. Effect of an isokinetic exercise program on vertical jump height of high school girls. M.S. in Physical Education, 1979. 65 p. (C. Cohen)
23 members of a SHS girls' volleyball team and 16 members of the girls' basketball team served as Ss. Each team was divided into an exp and a control group. The exp groups trained 3 days/wk for 8 wks. Training consisted of 25 reps of squat extensions with maximum effort at a fast speed performed on the Mini-Gym Leaper 16Xb. A modified vertical jump test was administered

before the onset of training, after 4 wks and at the end. Each S had 5 trials at each test session. ANOVA with repeated measures found no sig diffs between groups. It was concluded that an 8 wk isokinetic training program does not increase vertical jump height.

UNIVERSITY OF WYOMING (P. Dunham)
LARAMIE, WYOMING

526. MAZGAJ, Deborah Allen. The relationship between parental achievement motivation and parental aspirations and the preschool child's ability to learn selected aquatic skills. M.S. in Physical Education, 1979. 127 p. (P. Dunham, Jr.)

32 5 yr old boys and girls were randomly selected and qualified as nonswimmers. The parents of each child were administered a questionnaire to determine their aspirations for their child's success and the Nach Naff Scale, a measure of achievement motivation. The children were taught selected skills for 15 lessons. Each S was evaluated during the lessons and on the final 2 days of class. Stepwise multiple regression and two-way ANOVAs were employed to analyze the data. Results indicated that the father'a achievement motivation was sig higher than that of the mother's; the mother's aspirations contributed sig to the child's swimming achievement; and the father's achievement motivation had a combined sig effect with the mother's aspirations on the child's achievement.

PERIODICALS REVIEWED

Acta Medica Scandinavica
*Acta Paediatrica Scandinavica
*Acta Physiologica Scandinavica
*American Corrective Therapy Journal
American Family Physician
*American Heart Journal
American Journal of Anatomy
*American Journal of Cardiology
*American Journal of Clinical Nutrition
*American Journal of Epidemiology
American Journal of Human Genetics
American Journal of the Medical Sciences
*American Journal of Medicine
*American Journal of Mental Deficiency
American Journal of Nursing
American Journal of Orthopsychiatry
*American Journal of Physical Anthropology
*American Journal of Physical Medicine
American Journal of Physiology
*American Journal of Psychiatry
*American Journal of Psychology
*American Journal of Public Health
American Journal of Tropical Medicine and Hygiene
*American Review of Respiratory Diseases
*American Sociological Review
Anatomical Record
*Annals of Human Biology
Annals of Human Genetics
Annals of Internal Medicine
Archives of Environmental Health
Archives of Internal Medicine
*Archives of Physical Medicine and Rehabilitation
Archives of Surgery
Australian Journal of Experimental Biology and Medical Science
*Aviation, Space, and Environmental Medicine

*British Heart Journal
British Journal of Industrial Medicine
*British Journal of Nutrition

*Periodicals marked with an asterisk have research reports listed in Part II - Bibliography of this issue of Completed Research.

British Journal of Preventative and Social Medicine
British Journal of Psychiatry (Journal of Mental Science)
*British Journal of Psychology
British Medical Bulletin
*British Medical Journal
Bulletin of the Los Angeles Neurological Society

California Journal of Educational Research
*Canadian Journal of Physiology and Pharmacology
*Canadian Journal of Psychology
Canadian Journal of Public Health
Canadian Journal of Sports History and Physical Education
*Child Development
Child Study Journal
*Circulation
Clinical Science and Molecular Medicine
Community Mental Health Journal

Danish Medical Bulletin
*Diabetes

*Educational and Psychological Measurements
*Ergonomics
*European Journal of Applied Physiology and Occupational Physiology

Federal Aviation Agency Report
Federation Proceedings

Genetic Psychology Monographs
Geriatrics
*Growth

Health Care Financing and Administration
*Health Education
*Health Education Journal
*Home Economics Research Journal
*Human Biology
Human Factors

*Indian Journal of Medical Research
*International Journal of the Addictions
International Journal of Health Education
*International Journal of Obesity
International Journal of Occupational Health and Safety
*International Journal of Social Psychiatry
*International Journal of Sports Psychology
*International Review of Sport Sociology

*Japanese Journal of Physiology
*Japanese Journal of Psychology
*Johns Hopkins Medical Journal
Journal of the American College Health Association
Journal of the American Dental Association
*Journal of the American Dietetic Association
*Journal of the American Medical Association
*Journal of Anatomy
*Journal of Applied Physiology
*Journal of Applied Psychology
*Journal of Biomechanics
Journal of Bone and Joint Surgery
Journal of Chronic Diseases
Journal of Clinical Investigation
Journal of Clinical Psychology
Journal of Comparative and Physiological Psychology
Journal of Educational Psychology
Journal of Educational Research
*Journal of Environmental Health
*Journal of Epidemiology and Community Health
Journal of Experimental Biology
Journal of Experimental Education
Journal of Experimental Medicine
*Journal of Experimental Psychology
*Journal of General Psychology
Journal of Genetic Psychology
*Journal of Gerontology
*Journal of Health and Social Behavior
Journal of Heredity
*Journal of Human Movement Studies
Journal of Laboratory and Clinical Medicine
*Journal of Leisure Research
*Journal of Motor Behavior
Journal of Nervous and Mental Disease
*Journal of Neurophysiology

*Journal of Nutrition
*Journal of Occupational Medicine
Journal of Pediatrics
Journal of Personality
*Journal of Physical Education
Journal of Physiology
*Journal of Psychology
Journal of School Health
*Journal of Social Psychology
*Journal of Sport Behavior
*Journal of Sport Psychology
*Journal of Sports History
*Journal of Sports Medicine and Physical Fitness
Journal of Studies on Alcohol
Journal of Teacher Education
Journal of Tropical Medicine and Hygiene

Lancet
*Leisure Sciences

*Medicine and Science in Sports
Military Medicine
Monographs of the Society for Research in Child Development

National Conference on Social Welfare
Nature
*New England Journal of Medicine
*New York State Journal of Medicine
Nursing Outlook
*Nursing Research
Nutrition Reviews

Parks and Recreation
*Pediatrics
*Perceptual and Motor Skills
Physical Educator
*Physical Therapy
Physiological Reviews
Postgraduate Medicine
Practitioner
Proceedings of the Nutrition Society

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